

THE

# AMERICAN FARMER:

DEVOTED TO

AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

[FIFTH SERIES.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT  
"AGRICOLAS."  
Virg.

Vol. I.

BALTIMORE, SEPTEMBER, 1859.

No. 3.

## SEPTEMBER.

"The Autumn time is with us! Its approach  
Was heralded, not many days ago,  
By hazy skies that veiled the brazen sun,  
And sea-like murmurs from the rustling corn,  
And low-voiced brooks that wandered drowsily  
By purling clusters of the juicy grape,  
Swinging upon the vine."

## WORK FOR THE MONTH.

### TOBACCO.

In the Tobacco country this is the engrossing crop for the present month. What with the various stages of growth and maturity, some to be topped, some suckered, some cut and housed, and all protected from the worm, it is a busy time until all is made safe in the house.

### TOPPING.

Continue the work of topping as the bud or "button" shows itself. By the 15th of the month the whole should be topped, that the leaves then formed may grow and mature by the 10th of October, when all should be housed.

### HOUSING.

In preparation for housing, the Tobacco should be entirely cleared of worms, else their work of consumption will be carried on in the house. Sometimes, when the worms are numerous and the Tobacco fit for the house, a small house may be quickly filled, and a fire built under to dislodge them. Suckers should also be carefully taken out of every plant before cutting.

Do not cut when the Tobacco is damp with dew or rain, and after a rain let it stand several days to recover the gum which has been washed off. Cut after the dew is well off, and it will not be necessary to let the plants lie long in the sun to wilt. They should be put into small heaps or turns almost immediately, and hauled and

hung up very shortly. We prefer hanging at once in the house, to scaffolding, except when scarcity of room may make this desirable.

### METHOD OF PUTTING ON THE STICKS.

There are several modes practiced of putting Tobacco upon the sticks. The old fashion of splitting and putting the plants astride the stick, has the advantage of curing more quickly. This method is liable, however, to *house-burn* from the strutting out of the ends of the plants against each other. When pegs or darts are used, the leaves fall directly downward and the sticks may be put more closely together without damage. Many use a peg of some six inches, which is driven at an angle into the butt end of the plant and makes a hook to hang upon the stick. We have used for many years the iron dart, which is made with a socket to go upon the stick. This dart pierces the butt end of the plant, and the method has the advantage of enabling you to fix the plant upon the stick firmly, at such distance as may be proper. They are not liable in moving to drop off or run together. It is also an expeditious and altogether convenient method. At a late period of the housing season, we split the plant some eight or ten inches before we cut, in order to facilitate the curing of the end leaves, which are liable, when the stalk continues so long green, to be frost-bitten in the house.

### FROST.

The occasional "scares" which Tobacco growers are subject to, about the latter part of September, induces them to cut considerable quantities of the crop and crowd it under shelter or into "frost-heaps" for protection. The practice always defaces and spoils the appearance of the Tobacco, and frequently it is heated and materially damaged before it can be got up. In any of the Southern counties of Maryland, it is very unusual to have frost which will stain Tobacco

before the 10th of October. By that time all that we expect to have cured without freezing in the house, should be cut, and until that time we should never be frightened into cutting in one day, more than can be hung in the house by breakfast-time the following morning.

#### THE CORN FIELD.

If the corn field is to be put in wheat, the crop should be cut off this month after the caps or shucks have turned white. Care must be taken of putting the corn into large heaps for fear of heating. When the best fodder for work horses and carriage horses is wanted, save your corn blades nicely. Your corn will suffer for it somewhat in weight, but the fodder is of much value, and a good horse deserves the best food you can give him. There is no hay equal to well cured corn blades.

Seed Corn should be selected in the field from prolific stalks, and should be hung up out of the way of rats and mice, and where it will cure thoroughly. Much Corn is damaged every year by being put into large heaps in the field, and when this method of harvesting is adopted, such as may be required for seed should always be saved separately.

#### THE WHEAT CROP.

The utmost expedition will now be used to have the fallow ground in readiness. Let it be thoroughly prepared by harrowing and rolling—both for proper tilth and for compressing the recently broken ground. This is the more important if the following has been lately done.

#### TIME OF SEEDING.

The great advantage of early seeding, but for danger of the fly, would tempt us (where a large crop is to be sown) to begin by the 20th of September, or as soon as the corn field, if that is to be seeded, or the tobacco field, can be cleared for the purpose. The fallow field you may then begin upon by the 5th of October, and have all done in good time. The great danger of rust and midge should induce us to run some risk of the lesser danger of the fall fly, for the sake of early ripening, and the other advantages of a good stock of roots before winter.

#### MANURING.

All home-made manures which have not been applied earlier, may now be put upon the surface at any time, either before or after seeding. Always scatter it directly from the cart.

With regard to the portable fertilizers, much as we desire to see the Peruvian Guano substituted by other manures which may answer the same purpose, we advise you, whether or not you may think it proper to add something else, to use

a hundred pounds of that to the acre. It may be mixed by yourself with phosphatic guanoes, or used in the shape of the manipulated guanoes, or combined with as much superphosphate, or an excellent method is that recommended by Hon. Willoughby Newton of Virginia, in a paper submitted to the Virginia Agricultural Society, to compost the guano with any rich earth or fine manure which may be gathered upon the farm. This manure is passed through the guano riddle, and is fit then to be mixed with the guano for the drill. The young farmer cannot give too much attention to the practice of husbanding every thing to be found on the farm in the way of manures, and it is a valuable suggestion which makes all the occasional gatherings of fine compost available, in a very economical and convenient mode of application to the great grain crop.

#### PUTTING IN SEED.

There is great economy in the use of the drill with a manure attachment, for putting in seed. Both seed and manure are used to much greater advantage, and no implement will pay for itself sooner than a good drill. That of Bickford & Huffman (advertised in our paper) is unsurpassed and has stood the test of trial.

If you do not use the drill, sow broadcast and put in with a light furrow of the gang plow—putting in seed and manure at the same operation.

It is not necessary to break corn or tobacco ground before seeding, even when the drill is used. If corn land has a heavy growth of crab grass, run the drag harrow over it, and back in its own track. This will comb off the grass and leave the land in order for seeding.

#### PREPARATION OF SEED.

The simplest method of preparing seed for sowing, is to wash thoroughly in a strong brine. Pour the grain slowly into the brine, and skim off carefully all that floats. The wheat may be simply well washed, though many persons allow it to soak twelve hours or more. In this case, if it is to be drilled, it must be borne in mind that the bulk is greatly increased by the absorption of water, and a due allowance must be made in regulating your drill. After washing, throw the grain into baskets set over a barrel to drain, and afterwards dry it with plaister, quick lime, or, if you wish to make an economical application of guano, apply about a peck of dry guano to a bushel of seed.

#### RYE.

Sow Rye as early this month as you can. It is usually grown upon light soils, or such other lands as are not considered capable of producing a profitable crop of wheat. A bushel of seed to

the acre is sufficient. It is sometimes sown for winter and spring pasturage, and is very useful for this purpose. Wheat growers generally exclude it from the farm entirely, on account of the difficulty of keeping the wheat crop clear of it.

#### TURNIPS.

Turnips should be hoed and well thinned. It is not too late to sow for table use.

#### TIMOTHY.

Timothy may be sown any time this month, and until the 10th of October.

## WORK IN THE GARDEN.

### SEPTEMBER.

#### SPINAGE.

Hoe and clean growing crops of Spinage, and thin out to afford room for a strong growth of the plants. Prepare by thorough digging and manuring early in this month a bed for winter and spring use. When the plants have leaves an inch broad, thin out to 3 or 4 inches apart.

#### LETTUCE.

Lettuce sown last month should be set out in well prepared ground 12 inches apart whenever they have size enough. Water freely after planting, if the weather be dry. In the latter part of the month prepare a bed for planting out from seed sown last of August, to be protected for winter and spring use. These should be planted six inches apart each way, and in spring every other one taken up and put into another bed.

#### RADISHES.

Early this month sow Radish seed of the early sorts.

#### CELERY.

Earth up Celery as it advances in growth, always when the ground is dry, and be careful not to cover the bud.

#### SMALL SALADING.

Sow every ten days the different sorts of small Salading for a succession of crops.

#### TURNIPS.

Hoe and thin out your Turnips in dry weather.

#### CABBAGE SEED.

Sow early York and other sorts about the middle of the month for spring crop of early Cabbages. It is very well to sow at different times. While it is desirable to have good strong plants before winter, they are liable, if they advance too much, to go to seed.

#### CAULIFLOWER.

The same remarks are applicable to Cauliflower. They are more liable even than the cabbage to

go to seed in spring. Sow the latter part of the month. If the weather be dry, water freely before and after the seed are dry.

#### SEEDS.

Gather seeds of all sorts as they ripen.

## FRUIT GARDEN.

Gather Apples and Pears as they ripen. The following method of preserving choice fruit, we copy from our stand-by, McMahon. It will be useful both this and next month:

"Observe, in gathering the principal fruits (both pears and apples) to do it when the trees and fruit are perfectly dry, otherwise they will not keep so well; and that the sorts designed for long keeping be all carefully hand-pulled, one by one, and laid gently into a basket, so as not to bruise one another. According as the fruits are gathered carry them into a fruitery or some convenient dry and clean apartment, and lay them carefully in heaps, each sort separate, for about ten days or two weeks, in order that the watery juices may transpire, which will make them keep longer, and render them much better for eating, than if put up finally as soon as pulled.

"When they have lain in heaps that time, wipe each fruit, one after another, with a dry, clean cloth, and if you have a very warm, dry cellar, where frost is by no means likely to enter, nor the place subject to much dampness, lay them snugly upon shelves coated with dry straw, and cover them with a layer of the same.

"Or you may wrap some of the choice sorts separately in white paper, and pack them up in baskets or in barrels lined with the like material. Or, after being wiped dry, lay layer about of fruit and perfectly dry sand in barrels, and head them up tight. In default of sand, you may use chaff, bran, or very dry saw-dust.

"Another method, and a very good one, is to be provided with a number of large earthen jars, and a quantity of moss in a perfectly dry state; and when the fruits are wiped dry as before directed, your jars being also dry, lay therein, layer about of fruit and moss, until the jars are nearly full, then cover with a layer of moss.

"Suffer them to remain in this state for eight or ten days, then examine a stratum or two at the top, to see if the moss and fruit are perfectly dry; and if you find them in good condition, stop the jars up with good cork plugs, and cover with melted rosin to keep out the air. The pears and apples treated this way should be of sorts not generally fit for use before February or March. After being sealed as above, place in a warm dry cellar or room, on a bed of perfectly dry sand at least a foot thick, and as soon as there is danger of frost, fill up between the jars a foot thick around and above with dry sand. Thus you may preserve pears in perfection eight or nine months, and apples twelve.

"Ordinary kinds for earlier use should, after laying awhile, be picked over, wiped dry and put in barrels with layers of straw, and kept perfectly secure from frost."

#### PREPARATION FOR PLANTING.

Begin as you have opportunity to prepare the

ground which you may intend to plant in fruit trees this fall. Prepare thoroughly by digging and trenching, and mix in well rotted stable manure. No ground is fit for a fruit tree which is not thoroughly drained, naturally or artificially.

#### STRAWBERRIES.

This is a good season for making strawberry beds. A very rich, deep, well worked soil is essential, and good sorts should be selected. See article in August Supplement on best sorts.

### THE VINEYARD.

Keep ground clear of weeds and vines well tied up, to give the fruit full benefit of the sun for maturing. Birds and insects are likely to prey upon your grapes as they ripen. Choice kinds may be protected with gauze bags, and vials of honey or sugar and water hung up to attract wasps, &c. It is worth while to use means to frighten off the birds about sunrise and sunset, when they are most destructive.

#### Dr. Wm. Newton Mercer.

We have had occasion to record three donations of \$2,500 each to the Maryland Agricultural College, by Dr. Mercer. The following notice of this worthy gentleman from the New Orleans correspondent of the Cincinnati *Price Current*, we take pleasure in copying, for the benefit of the wise example it affords to men of wealth to see to the proper use of their extra wealth themselves, instead of leaving it to be squandered among trustees and lawyers when they die:

"Dr. Mercer, of this city, has a revenue of \$200,000 per annum, and he expends \$200,000 per annum in noble charities and says nothing about it, and a large mass of the people living here know nothing of the liberal charities of this estimable man. He is without family, his wife has been dead for many years, his only child, an elegant, accomplished and intelligent young lady, was taken from his home by the hands of death only a few years since. In a splendid location on Prytania street, there stands a stately and magnificent edifice built for the support of aged, indigent widows.

It was endowed by Dr. Mercer with a donation of \$30,000, and he still continues to contribute his annual donation to its support. This edifice stands a speaking monument to the memory of his daughter, and is named after her and called the "St. Anna Asylum." What salt to the earth are the lives and the good conduct of such men as Dr. Mercer. What bright and particular stars to light up this sad and dreary path of earth. Would that there were more such! Dr. Mercer was the warm and bosom friend of the great, lamented statesman, Henry Clay. This noble man never made a visit to this city, that he did not make his headquarters at the stately and palatial residence of Dr. Mercer, on Canal street, and here he found a welcome and a happy home."

[For the American Farmer.]

### Insects.—No. 2.

#### CRITCH BUG—LADY BIRD.

In our former article we attempted to bring before the mind of the agricultural reader some general observations upon the numerous class of insects, and attempted to show in a concise manner some of the more marked types of organism discovered amongst them. At this time we propose to offer a few suggestions of importance to agriculturists, which have heretofore been too much overlooked.

Nature is so harmonious in all she undertakes, that in no place can we discover links wanting from the chain of her arrangement. Among her other works, she has assigned to insects an important part to fulfil, and it is not in vain that we see the pellet-beetle rolling his ball, or the fire-fly flashing his light.

Each moss, each insect, and each tiny shell  
Proclaims a Maker's hand—created well.  
A destined place 'midst nature's wide domain  
An atom holds—her order to maintain.

But it is only in primitive nature, as we found her at the beginning, that we can look for such harmony; man has come with his appropriating hand, and stricken out some links from the chain of her arrangement. Now, the grain-eating weevil preponderates here, and the carnivorous beetle there; in this place the grasshopper consumes the products of the field; in that the army-worm luxuriates among the treasures of vegetation. Before man came her powers of resistance were greater, because, as the insects were numerous, so were the productions of the ground, and the bird and the beast each lent a helping hand to reduce their numbers; but now man wants his way, and all nature must succumb to his desires, yet he has not quelled these insect tribes; he has destroyed the bird and driven away the beast, and he has to repel the enemy alone. The time has not yet come, however, when he can battle with insects successfully; their minute forms and concealed habits, and the peculiarities of their economy, present to him difficulties which time and experience alone will make understood.

The history of but few of the insects of this country is known, and even those which have been most closely watched and to which attention has been most particularly called, are not known to numbers of persons who have them to contend with. Amongst many other depredators which yearly thin our crops of cereal grains we may mention an insect, which in some sections of the country is called the chinch-bug, (*Micropus leucopterus*, Say.) This pernicious insect has appeared in incredible numbers in some sections of our country, and the damage it has occasioned is immense. In the Southern States it seems to make its appearance about the last of May or first of June, and a little later farther north according to the season. Dry seasons seem to be more favourable to it than wet. The perfect insect deposits its eggs in the ground during the later part of summer or early fall, and the warmth of the ensuing spring develops the young, (larva) which soon betakes itself to the nearest wheat, corn, grass, or other vegetable matter suited to its taste, where it attaches itself near the root, and



by means of its sharp proboscis sucks the juices, causing it to dry and shrivel. In its first two stages it is a flat, rounded object, moving about upon six legs, and changes more in size than in appearance during these stages; in its last condition it is a complete "bug" about two-twelfths of an inch long, of a black colour, powdered with whitish, beak brown, wings white, wing cases blackened at their origin and with a large black spot against the margin; two black lines are also discoverable running against the spot. Its form is narrowed, with the sides parallel and somewhat more thickened than in its earlier stages, and the white wing cases, with the well defined black spot marked upon them, render it rather a conspicuous object. They appear so suddenly, being hatched out nearly all at the same time, that it very frequently happens that much mischief is occasioned before they are discovered to be present. Its appearance is so insignificant, that to a person unacquainted with its habits it might appear as an object of but slight importance, but when its ravages are known, few insects are acknowledged to be capable of doing so much injury. This insect need never be looked for as a worm or maggot; it is hatched from the egg with six long legs, is very active and at once capable of doing injury in the same manner which it adopts in the perfect stage. It does not always die with the cold of a change of season, but, safely stowed away in its hybernaculum, lives through the severity of winter. Scarcely any insect attacks us so continuously during its life, and few are as tenacious of life as it is; consequently, all efforts to arrest its progress or complete its destruction must be very efficient and of considerable duration. It might be swept from the grain by means of a gauze scoop-net fitted to a handle; finely reduced oyster shell lime might be sifted amongst the blades when it first appears; but it seems likely that burning over the ground before ploughing, or after the infested crop has been removed, will be the only extensive means that we can now adopt; in the latter case, the chaff and refuse that remain after the grain has been winnowed should be carefully collected and burnt. A few years perseverance in these methods would tend greatly to decrease their numbers, if not destroy them entirely.

Another insect, which attacks the leaves of squashes, melons, and cucumber-like plants generally, may be noticed in this place. It is the *Epilachna borealis*, or northern lady-bird of authors; it is of a convex form, resembling a tortoise, of a deep yellow colour, with seven rounded black spots upon each wing case, the one upon the middle and the one before the middle being divided when the cases are open; four smaller round black dots upon the thorax, and two large black spots upon the breast between the hind pair of legs; the eyes are round and black, and the whole insect appears invested with a fine short down. It measures about a third of an inch in length. This pretty insect forms a fine contrast with the deep green leaves upon which it sits, but the havoc it makes is truly great. About the latter part of June it commences its ravages in the perfect state; these chiefly consist in gnawing large holes in the leaves, destroying the parenchyma, and rendering the leaves useless for purposes of respiration; in many cases they are con-

sumed entirely. This mischief is generally done in the morning and evening twilight; the insects commonly avoid the heat of the sun, and crawl beneath the leaves for protection from his rays, and when numerous, the amount of food they require is so considerable, that scarcely a leaf will be found which has not been gnawed by them. The insects are so large and easily seen, that a child might control a large patch, by being provided with a net to sweep them from the vines, and then they may be killed in any way most convenient.

Many other species are present before us at this time, but any further considerations must be deferred to some future occasion. As time rolls on, facts meet us and considerations urge themselves which were overlooked by us, or only faintly shadowed in the distance. With the hope that some good may yet result from such facts as we may record, we would leave the subject in the hands of those whose interests are most nearly concerned.

P. R. UHLER.

### Destruction of Sheep by Dogs.

The assessors in Ohio, under an act of the Legislature, have endeavored to ascertain the total number of sheep killed and injured by dogs during the year 1858. The returns from only a few counties have been published; but these, few as the counties are, disclose a fearful amount of slaughter. We append the returns of eleven counties, covering not more than one-eighth of the State:

Counties.	Killed.	Wounded.	Value.
Greene.....	1,200	820	\$3,104
Harrison.....	587	1,473	3,087
Delaware.....	781	555	1,026
Muskingum.....	1,206	884	3,116
Champaign.....	682	564	3,189
Lorain.....	432	156	1,219
Summit.....	820	820	2,459
Lake.....	412	100	888
Stark.....	626	719	1,879
Cuyahoga.....	683	1,112	3,193
Wayne.....	747	657	2,182
	7,054	7,960	\$25,842

Here are over 7,000 sheep killed and nearly 8,000 injured, at a cost to the owners of over \$25,000, and all by a pack of curs utterly worthless. If the proportion holds good throughout the State, the annual loss to sheep-growers must be about \$200,000, and if all the dogs in the State were put together they would not be worth a tenth part of that sum. We trust that the legislation under which these statistics have been gathered will be followed up vigorously, and that some judicious measures will be taken to abate an evil of such magnitude. Other States will doubtless follow Ohio in any efficient measures she may adopt. The danger to sheep from dogs has for a long time prevented an increase in the sheep-growing business in this country. Many men who would otherwise engage in it are restrained from venturing from the risk attending it in consequence of the dog-pest. If this were removed, the business of wool-raising would at once become a leading and a profitable one.—*Pittsburg Gazette.*

If any one speaks evil of you, let your life be so virtuous that none will believe him.

[For the American Farmer.]

No. 2.

**Examination of Soils.**

MESSENGERS, EDITORS: Continuing the subject as partially elucidated in the Farmer for last month, the enquiry naturally grows out of it—what is this *humus*? The word is Latin, and its meaning is *earth, ground, mould*, but neither the term itself or its meaning is correct, though sanctioned by use. It is described as a "dark, unctuous, friable substance, of nearly uniform appearance—a compound of oxygen, hydrogen, carbon, and nitrogen—found abundantly in rich garden mould, or old neglected dunghills; a product of organic power, such as cannot be chemically compounded." As usually found in the earth it is insoluble in water; how then can it be taken up by the minute vessels of the roots of plants? The agricultural chemist answers—"It remains in the earth unimpaired for a long time, but no sooner is it brought into contact with the atmosphere by the process of cultivation, than an *action* begins. Part of its carbon uniting with the atmospheric oxygen produces carbonic acid, which the green parts of plants readily absorb, while its hydrogen, with the same, forms water. The residue forms a *soluble extract*, and that is readily absorbed by the plant roots." This explanation may be correct, but the processes described have not been traced or investigated chemically, or in the soil: "they are pure inferences," nothing more. Vegetables certainly decompose manures (and *humus* is manure,) *by the energy of their vital principle*, and land is made poor by this decomposition and absorption. They also deposit fibrous or other material of their own, consequently decomposable substances always exist in land, injurious or poisonous to individual species, but available as manure for a *rotation crop*. The native earths are unchangeable; sand remains sand, and clay, clay.

At the conclusion of the process described in our No. 1, we had obtained "*humus*" in the form of a "fine brown mud." With the water, this is placed in a filter, through which the water passes. The mud remaining is dried over a fire and weighed. *This is by far the most important portion of the soil.* The fine earths in tube No. 1 will consist of very fine particles of sand, clay, and probably some carbonate of lime. The sand will be deposited in the bottom of the tube; the clay (*alumina*) may be easily diffused in the water above it, by carefully stirring it with a small rod, without touching the sand. It may then be poured off with the water into another tube, No. 3, and allowed to settle: this part of the operation may be perfectly executed by using great care, and examining the results occasionally with a small microscope; but it is quite sufficient for all practical purposes to separate the vegetable from the mineral earth, and the visible particles of sand from the finer.

Here then we have a simple and easily manipulated (a favorite word with many just now,) analysis; not chemical it is true, and for that very reason much better for farmers. Any of them can, if he chooses, ascertain the constituents of the soil of his farm by the process we have given, not certainly as complete as it could be done by a good chemist, but eminently useful

notwithstanding. We have then by proceeding as directed, demonstrated that our soil consists of—

Coarse sand.....	0000 grains.
Finer sand.....	0000 "
Very fine sand.....	0000 "
Clay.....	0000 "
Humus.....	0000 "

If it be desirable to detect any *saline* substances, collect all the water in which the earths have been diffused and washed, pass it through filtering paper, and set it over the fire in a clean saucepan. Boil it gently away until it is reduced to a small portion which begins to look turbid. Put this into a shallow dish, and evaporate very slowly—what remains is the soluble matter contained in the soil, which dry and weigh. Salts may be detected by the taste, or by the formation of crystals in the evaporation; but unless there is decided taste, the whole may be regarded as *humus*, upon the quantity of which the immediate fertility of the soil depends.

It is easy to perceive, however, that although we have got a very good, plain, practical analysis, it is not as thorough as it might be. There may be some *carbonate of lime* (chalk) mixed with the other earths. How shall *this* be detected and exposed? Thus: Into separate cups, put each portion excepting the *humus*, and upon each, pour a little *muric acid*, diluted with four times its weight of water. The presence of carbonate of lime is shown by the effervescence, and the dilute acid is added as long as the effervescence is renewed. When this ceases, add more water until all acidity is removed, then filter, dry and weigh each portion. The loss of weight shows the quantities of the carbonate dissolved by the acid, which with the water has passed into the form of muric acid of lime. The acid will assuredly dissolve some iron, and a little alumina, and so far it is clear that *chemical* agency is essential to a perfect analysis. In ordinary analysis, by re-agents, the leading chemical process is the detection and separation of the chalk, for without this the deductions would be erroneous.

There is not a doubt upon our mind but that Mr. Rham's mechanical analysis ought to be constantly practiced, because simple and efficient.—As an example is of much value to all who would like to try an actual experiment, we give one as conducted by Mr. Rham himself. His only instruments were a pair of good scales and weights, three glasses a foot long, and an inch and a quarter diameter, belonging to French lamps, a tin coffee-strainer, a piece of fine gauze, a very fine cambric pocket handkerchief, and a little *muric acid*. The soil to be analyzed was from a field of good arable land, of a specific gravity nearly 2358. 500 grains of the dry soil were stirred in a pint of water, and set aside.

500 grains more of the same soil were weighed after drying over the fire, then well pulverized with the fingers, sifted through the coffee-strainer, then through the gauze, and last through the cambric handkerchief. Some portion was left behind at each sifting. The two first portions were washed in the strainer and gauze; the residue was sand of two degrees of fineness, which, when dried, weighed, the coarser 24 grains, the next 20 grains. The earth and water which had passed through the strainer and gauze, were now

strained through the cambric, some *very fine sand* being left behind, which dried, weighed, and added to what had remained in the cambric when sifted in a dry state, weighed 180 grains. All that had passed through the cambric was mixed with water in a jug, and well agitated. The heavier earth settled, and the lighter was poured into one of the lamp glasses, fitted with a cork in one end, and then set upright. In a few minutes there was a deposit, and the lighter portion poured into a similar glass and set aside to settle. In this the deposition was slow, and in about twenty minutes the muddy water was poured into a third glass. The three glasses were now placed upright, and so left until next day. On examination, the first glass held some *very fine earth*, apparently clay, the second the same, but more muddy, and the third only a thin mud.

The contents of each glass were now left to deposit their sediments, and from each this was poured on a plate—(if these plates had lips it would be a great improvement)—by removing the cork from the tube, and then cleaning it with a piece of fine linen previously dried and weighed. Each plate was occasionally examined, and the lighter parts that floated on slight agitation poured from one to another, until all the *humus* was presumed to be separated. Most of the water could then be poured off without muddiness, yet it was passed through a dried and weighed paper filter. The earth on each plate was now carefully dried by a good fire. The deposit left in the jug was now poured in a plate, and the small muddy portion poured with the water into another plate. This was again transferred, and the finer added to that in the second plate.

Collecting each portion of the whole, and carefully weighing them, there were found—

Of coarse sand.....	24 grains.
Of finer sand.....	20 "
Of very fine sand.....	180 "
Clay from jug and first dried plate....	240 "
From second plate.....	24 "
On paper filter.....	1½ "
On linen rag.....	½ "
	490 grains.

Leaving 10 grains to be accounted for.

The soil was now reduced to its integral elements as far as manipulation could effect it, but we have no account of the quantities of the chalk, alumina, oxide of iron, or silex, or of their proportional combination; therefore we now resort to the muriatic acid.

Each of the four first portions was put into separate cups, and the acid diluted with water poured on it. In all there was effervescence, which continued on adding more, and when the contents of each cup were stirred with a pipe stem. Leaving them until next day all effervescence had ceased, and the calcareous part seemed quite dissolved. More water was now added to dilute the muriate of lime, the clear liquid then poured off, the remaining earth strained through filtering paper, and then dried on plates by the fire. The results were that—

	Remained.	Dissolved.
Of 24 grs. of coarse sand.....	20	4
" 20 " finer sand.....	17	3
" 180 " very fine sand.....	162	18
" 240 " earth on first plate, ...	182½	57½
464	381½	82½

Thus the acid dissolved 82½ grains, most of which was chalk, the rest very small portions probably of oxide of iron, alumina or silex.

Our object is thus accomplished in presenting to the farmers of Maryland a simple and easy method of examining the soil of their farms, and ascertaining its composition with sufficient accuracy for all practical purposes. As a general rule analysis are wholly disregarded. Lime, and indeed every other material, is applied more or less freely, and without any investigation as to the propriety or impropriety of their use, or their adaptation to the wants of the soil. Hence results so frequently fall short of anticipations, and the farmer blindly follows the beaten track when he might clearly see the right path that opens to him brighter prospects for his toils and anxieties. If he *knows* the composition of his soil, he will understandingly apply what it needs to secure its maximum fertility, and thus avoid the too common error of all sorts of applications indiscriminately to all sorts of soils.

KENT.

Oak Hill, Kent Co., Aug. 5, 1859.

### The Curculio.

The injury to our fruit done by this wonderful insect is enormous. For many years past they have destroyed nearly all our plums, nectarines, and apricots. But they are not content to stop here. The injury they are doing to our peach crop amounts to millions of dollars per annum. And even the apple crop suffers largely from their depredations. What is to be done? Shall we surrender to the "little Turk"? Of all the remedies that have been proposed, we believe, after all, that the old one of shaking them off on a sheet and destroying them has proved the best and the most effectual. But the trouble with this is, that when only a few trees are attempted to be protected in this way, it is apt to be neglected. It should be regularly attended to morning and evening. We understand that Messrs. Ellwanger and Barry, of Rochester, have several acres of plum trees, and that they have good crops of fruit. They employ two men to make this their regular business. A light wooden frame is made on which canvass or cheap muslin is stretched, made large enough to cover the space under the branches of one-half of the tree. Also a similar one to occupy the remaining space. A branch of the tree has been previously sawed off, leaving a stump some three or four inches long. After the "Curculio Catchers" are placed beneath the branches, which can be quickly done, one of the men with a mallet strikes the stump a sharp, quick blow. The "little Turks" drop, and are immediately removed from the "catchers" and the men proceed to the next tree. Many hundred trees can thus be gone over in a few hours.—*Valley Farmer*.

[For the American Farmer.]

### The Wheat Crop, the great Monied Crop of the Middle State Farmers.

So far this season the "bears" have had their own say in their own way—for doubtless through them, and the casual railroad scribblers, accounts have come up to us through the press, nearly ever since the crop of wheat was sown, from every portion of the United States and Canada, that the prospect for an abundant crop was never so promising.

Well, the harvest is about through, and with all the pressure and growling and management of the "bears," at times suited to their purposes, the price of wheat steadily went up the past year from one dollar (soon after the harvest of 1858) to two dollars per bushel, but as soon after the new crop appeared in the market from Georgia, poor as the sample was for Southern wheat, the "bears" raised their usual cry of "superabundant crop," and already they have succeeded in reducing the price of wheat 75 cents per bushel, or to an offer of only \$1.25, with a confident air that it will yet go down to \$1, if not to 80 cents per bushel. And it does appear that the millers and gentlemen of the Corn Exchange have determined to reduce the price to the lowest figure. Many of these gentlemen of the Corn Exchange being themselves millers, although professing to sell under colour of disinterested commission merchants, yet instead thereof they are only playing the game of *two* (miller and merchant) pluck *one* (farmer)—the farmers being the dupes, first, until the gentlemen of the Corn Exchange get the majority of all the grain secured to themselves, and then the consumers are the dupes the latter nine months of the year. For as soon as those mixed commissions of millers and merchants of the Corn Exchange ("bears") get the majority of wheat in their own hands, they gradually let up a little in price, then shut down, so as to frighten timid and needy farmers, and so on they screw up and let off to the end of the season, selling out at high prices and buying all on hand when prices are low. This mode of management is easily carried out, as there are but few of those combination institutions, called Corn Exchange brokers ("bears,") one of which is at St. Louis, the centre of the great Mississippi valley; another at Chicago, which commands the Lake country and the valley of the St. Lawrence; the third at New York, the great distributing seaport; the fourth at Philadelphia, the greatest consuming market; then Baltimore and Richmond, both of which are great milling marts. Thus these six institutions, who have assumed the title of Corn Exchange, but who are only "bears" of the Wall street *genus*, who assemble daily at their six several palatial, stately and extensive buildings, in their respective cities, and who have command of the telegraphs to transmit and receive news—the banks to give facilities for monopolizing operations, and the press to swell the amount of grain and to depress or expand the markets, per order. From these six stand-points they rule the price of the products of the 2,690,540 farmers (large and small) who cultivate the lands of this great country, together with Canada, which is made the same as ours by the operations of the Reciprocity

Treaty, so called, there being no distinction made between the arrival and sale of Canada wheat from that grown in Wisconsin or Iowa, in the great distributing market.

Now, it may be fairly assumed (if we must believe the report of these "bears") that the wheat crop has escaped the ravages of its natural enemies—the Hessian fly, grub, army and joint worm, midge, rust, scab and fungi, and other casual sectional and occasional enemies—with but little injury. But this important cereal of our country may be placed about in the same category as the old women of New England formerly were, when suspected of being witches. They were tried by having a stone tied to their necks, then taken to the nearest river or pond and thrown in, and if they were drowned, they were considered innocent, but if they swam ashore, they were deemed guilty and punished, a kind of Lynch law of the present day. So it is with us poor farmers—if our crops should encounter all their natural sectional and occasional enemies, so as to reduce the product of our fields below a remunerative price, why that is very well; but if they should escape all those and bid fair to be remunerative, then we are met with Reciprocity and other treaties, which have destroyed our home market and thrown us into the hands of these "bears."

How the price of wheat will rule the coming year, no one can tell. But I will venture a prediction that if the "bears" (Corn Exchange) succeed in getting the price of wheat down to \$1 per bushel till the end of October, they will manage to get it up before the first of July next to \$2.50 per bushel. They succeeded in raising the price of wheat in 1855, during the Crimean war, although we imported 3,178,000 bushels of wheat more from Canada that year than we exported to all the world.

There has heretofore been much random guessing, at different times, as to the acreable product of wheat, and of the total amount raised and the amount consumed by each individual for seed, and for feed for men and animals and for starch. We were formerly led to look to the reports of the Patent Office for some information as to the amount raised, consumed and exported, but no reliance can now be placed on their estimates, no more than on the value of the seeds and plants sent out from that institution, as may be seen by referring back a few numbers. Thus, in 1855 it was estimated from the Patent Office that the crop of wheat grown that year was 165,000,000 bushels. The official figures, taken from the census reports from the different States, as published in the Financial Report of 1856, show that estimate to be one-third too high.

For fair data to estimate the crop of wheat raised, I annex the official returns of the census of 1840, 1850 and 1855, and an approximate estimate for 1859, believing that the general average of crops are too high. A failure may occur in one section of the State or of the Union, and be abundant in others, and so throughout the whole country, but the unlimited extent of our railroads equalizes the cost so nearly as to make the same like an annual similar average, the wear and tear or the usual deterioration of the lands only excepted:

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Population.	Bus. Wheat raised.	Bushels exported.	Consumed at home.	Bus. pr cap.
1840. 17,053,953	84,822,372	10,118,365	75,704,901	4.8-10
1850. 23,191,876	100,487,840	7,555,940	92,932,816	4.3-10
1855. 27,187,517	108,655,677	6,820,552	102,844,116	3.4-10
1859. 30,000,000	118,153,344	none.	118,153,341	3.3-10

The figures above, showing the growth of 1840, 1850, 1855 and of the population, are from the Census Reports—the amounts estimated for 1859, together with the amount consumed for seed and as food for men and animals, and for starch, and the ratio for each individual, are my own.

It will be seen by the official table of population, production and home consumption, that the increase in the production of wheat does not keep pace with the increase of population and consequent wants for food for the increasing manufacturing population, they consuming much more wheat and flour than of corn or meal in their daily food, than the more rural population formerly did. And as our manufacturing population increases (as increase it will) the ratio of increased demand will be the greater, as more wheaten flour will be required for starch and sizing, and the consequent increased demand for the increasing population of consumers more than producers.

It is a lamentable fact that the wheat crop in this country is fast decreasing, and by the present system, the profits of the crop are all monopolized by the members of the Corn Exchange, the farmers, as a general thing, seldom realizing over \$1 per bushel, whilst the labouring, and other consumers, have to pay an average of \$1.50 per bushel, and in this proportion as the price of wheat rises or falls from that average by the operation of the "bears" of the Corn Exchange. Nor will this state of matters (so injurious to the success of the farmers) be bettered until they and the labouring consumers shall come to their senses enough to see to it that their own industry is protected against the competition of labour done in foreign countries, (there is no use longer to evade the question from these impositions, as nothing will save the farmers but a protective tariff,) and some system be adopted whereby our lands may be made to produce grain as they formerly did. And this can only be easily done by encouraging protection to the industry of our people and sustaining the laudable exertions of those gentlemen who have subscribed so liberally and given their time in getting up agricultural schools and experimental farms. This aid must come from the Government. It cannot be expected that the few farmers (zealous as they may be in the cause of agriculture) can be able to meet the expense attending the getting up these schools and farms, (as both are but untried experiments, as yet, in this country,) so as to restore the lands permanently to their original fertility, in the ratio of the increased demand for them. The want or necessity for them is in a double ratio to what it formerly was. First, from the rapid falling off in crops by bad cultivation and the exhaustion of the soil, and the increased number of enemies of the wheat crop. The ratio of these losses has so often been published, from the above causes, from every section of the Union and Canada, as to make it unnecessary to repeat the figures here—many sections and States having fallen off more than half their crop in the short

period of ten years, even after the new and seemingly exhausted land has come into cultivation, in the new States 9 bushels now being an average when 40 bushels should be given.

To stop the exhaustion, the aid of science is required. And if the money for the purpose cannot be raised from the proceeds of the sales of the public lands, without detriment to the revenue, there is a way it can be raised, and the cause of agriculture and the revenue both be benefitted by the operation. HERE IS THE WAY: By the tariff of 1857, the duties on brandies and spirits from grain was reduced 70 per cent. The revenue that had accrued from that source as far back as 1853, from the importation of \$4,676,046 worth of said liquors, at 100 per cent. duty amounted to \$4,676,046, but by the reduced duty of 30 per cent. the revenue accruing on that amount of the importation fell off to \$1,402,813. By this operation our government threw into the lap of France \$3,273,103, to the detriment of the receipts into the revenue, at a time when they were much wanted, without an abatement of one cent to the American consumer of those foreign liquors or an abatement of one cent of the 1000 per cent. of the duty charged by France on our tobacco. Now, by reducing that duty, which has militated against the agriculture of our country, in the new experiment of cultivating the vine and the raising of grain, of which these spirits would have been made, and giving one-half of the revenue received from that source for the benefit of agricultural schools and experimental farms, the Government would get 20 per cent. more revenue, that is, 50 per cent. where she now gets 30 per cent. This would amount to \$935,209 to the Treasury over and above that now received, and \$2,338,023 would be left for distribution to the different States annually. This sum would be more than equal to the interest on the proceeds of the sales of 40,000,000 acres of the public lands at \$1.25 per acre—and if distributed among the States and Territories according to federal representation, would be ample, doubtless, to set the important ball of doubling the wheat crop in motion, and subsisting the millions with cheaper bread and at the same time increase the revenue \$1,000,000 per annum. I throw out this plan, believing that no objection can be made to it by the President on any reasonable grounds, and with the hope that if the land bill is objected to, that this will be adopted in its place.

But hold, Mr. Editor—I had like to have forgotten one of the principal subjects I sat down to write about. I meant to say that in order to test the question of increase or decrease of the annual crop of the wheat grown, I propose to offer the following volunteer premiums, to be awarded by the United States' Society, at their next annual exhibition at Chicago in September, unless the executive committee should add premiums of similar import to their list of premiums, subject to the usages of the Maryland Agricultural Society in ascertaining the accurate measurement of land and the manner of cultivation, and the gathering and ascertaining the amount of grain grown by actual measurement—no crops to be entitled to a premium unless the land has been under cultivation at least ten years, and at least three crops of wheat cultivated in that time. The object of the latter clause is to ascertain whether

the amount of wheat increases or decreases by the present system of cultivation, and in what ratio. For the best crop of wheat grown on fifty acres, and not less than fifty, running bushels to each acre, the average of field, thus:

1. For the best field of 50 acres, averaging not less than 50 bushels per acre.....	\$20
2. For the best field of 100 acres, averaging not less than 45 bushels per acre.....	20
3. For the best field of 200 acres, averaging not less than 40 bushels per acre.....	20
4. For the best field of 400 acres, averaging not less than 35 bushels per acre.....	20
5. For the best field of 800 acres, averaging not less than 30 bushels per acre.....	20
6. For the best field of 1600 acres, averaging not less than 25 bushels per acre.....	20
7. For the best field of 3200 acres, averaging not less than 20 bushels per acre.....	20

The above quantities or ratios have been attained in the old Atlantic States of smaller lots, commencing with 2½ acres and ending with 160 acres. Much greater casual yields have been attained. I recollect of seeing well authenticated accounts of 140 bushels wheat grown on 2 acres in Erie county, Pa., some time previous to 1820, and of 66 bushels per acre, the field through, in Lancaster county, Pa. But the object of the above schedule of premiums is to meet the large farmers of the far-famed virgin soil of the fertile and exhaustless West, and is intended to include Canada, or wherever reciprocity extends, from the Russian line, high up in the North, (where it is said wheat of fine quality grows in abundance,) down to the Rio Grande, on the Mexican boundary, and from the Atlantic to the Pacific.

Another object in offering premiums of these ratios, is because the premiums of this important cereal is not in proportion commensurate with its value, as compared with other objects. The Society offer \$100 for the best ten fancy bulls, and \$25 for the best boar, while all the live stock in the whole country, from the swift racehorse to the rabbit, was only put down, in 1840, at the value of \$437,241,516. They also offer \$5 for the best wild turkey, whilst all the poultry, from the game cock (the blue hens' chickens) and Brama Pootra and fantail pigeon, was put down at the value of \$9,314,410 in 1840. But the greatest *hore* of all was the fact that only \$32 is offered as premiums of all wheat, white and red, of winter and spring varieties, whilst the annual crop of wheat, the growth of 1839, was put down at \$4,822,372 bushels. A failure to the extent of one-half of this crop throughout the Union would cause the death of millions of the inhabitants by starvation.

In order to carry out the above offer, according to the spirit of the list as above made out, I hereby authorize Col. H. Capron, superintendent of the United States Agricultural Society, to record the same, to be awarded at the exhibition of the Society in September next.

JOHN JONES.

Wheatland, near Middletown, Del.

There are some that live without any design at all, and only pass in the world like straws on a river; they do not go, but are carried.

## A Letter from Col. Ware.

To the Editors of the American Farmer:

I was greatly surprised, in reading in your August number the editorial "The Sheep Discussion." My piece had been in your hands since April—I had seen you more than once since, and except its length, you never hinted to me that there was anything in it in the slightest degree objectionable to you or your paper—and your comments (published a month after the objectionable piece) induces the belief that its publication not being your wish, something unpleasant connected it with your mind, and your memory gave it a wrong direction. Had you mentioned it, how easy to have shown your error. I will copy the (to you) objectionable sentence:

"I think every subject connected with farming, brought forward in farming journals, should be fully discussed by the farmers, for the good of their own class. It creates the value of the journal; if otherwise, your journal would not be worth, to the farmer, the paper on which it is printed. The indisposition to expose such errors, without an interest in the matter, frequently causes forbearance."

The piece, plain and simple, is before you. Is there a man can gainsay the principle? It does not say the discussion of "sheep, merino or muttons;" it said "every subject connected with farming;"—not one word against "essays of correspondents," "valuable selections, scientific or practical," "our own editorials, grave and gay," or even to your notices to delinquents, or numerous approvals of your paper. I certainly did not object to any of them in any way; nay, I would encourage discussion in all, when desirable. But "the full discussion of all subjects connected with farming" should not be forbidden by a farming journal. I ask of what value would a farming journal, as such, be to a farmer, that forbid free discussion on every and any subject connected with farming? It would be of none to me—I would have no confidence in its agricultural feeling. Then why take such views? I do not think the whole sentence warrants them. The remark was not intended about sheep, but "every thing connected with farming," and is so expressed—and yet in the way you extract and apply it, you make the extract apply to my discussion making the value of your paper. As far from it or from that being my motive or ideas as you can imagine—and the whole sentence (not your extract) will show no such thought entered my brain. I wonder at your view, for the whole sentence contradicts it, and the extract from it requires a forced construction to sustain you. I know you said you "did not take part in this discussion," though I have more than once seen some little impatient hints on the subject, which shadowed forth at least a feeling.

Now, in your editorial you come out pretty well, (for one that takes no part,) and all on one side, and calling out for help. I am inclined, at times, to think you took that extract and view of it to enable you to bring in the two remarks from Gloucester and the Eastern Shore, (honestly, is it not so?) both easily answered. I say, all on one side, for you caught up the two ideas above and published them—not one word on the other side, though I know you heard opinions on the

other side; I was present when one was given, and very *strongly*, too. I am not aware of having discussed on the *quality* of muttons, it being a matter of taste, and of course not discussible. I have met with no mutton more to my taste than the yearling Cotswold, and no mutton eater at my table has ever turned his back on one, and I have had many there. But the discussion was as to which sheep was most profitable to the Virginia farmer for general farming purposes. Your Eastern Shore friend spoke well of the *quality* of merino mutton. I said not one word against its quality at any time. I said they were not classed among mutton sheep—were too long getting to be mutton for profit, and too small after grown for profit. As to your Gloucester friend, he is accustomed to the mutton of his country, and probably any change from it might not be agreeable to him. But that does not establish a standard; I might probably not like the mutton of his region. Now as to his evidence (and I do not permit myself to doubt the honesty of his opinion,) what sort of Cotswold buck could he have bought for \$25? how deep in the blood? And yet crossing with such an animal (of course only part-bred) on *no-bred ewes*, and this done incestuously "for several years," enables him to form an opinion of Cotswolds, and authoritatively express it, too! as if part-bred Cotswold and no-bred ewes, by mingling their streams, can create Cotswold blood. And this is the way, by his *own showing*, he has tried and passed on Cotswold blood! This incestuous intercourse alone would materially injure in vigour of constitution and otherwise, any blood of man or beast. Is there an owner of any kind of animal willing for such a test to be applied to his, as a fair trial of their quality? You are "taking part" at least in this, so far as to triumphantly *endorse* the injuries he depicts as "*facts*" ascribable to the *Cotswold* sheep. Now, I ask you—as the editor of a farming journal and as a farmer—honestly, do you not blush at heralding such an experiment as a *fair and conclusive "fact"*? There is no getting out of this position, for you say (in speaking of me) "he requires '*facts*,' and we shall furnish them." "The first '*fact*' we shall offer is" the above. Is this not endorsing it and taking part? If this is your view of the proper *system of breeding and fair experimenting on blood*, I trust you will be "solitary and alone." You will not dare to advocate such a *system* in your paper.

Now, sir, were your position true, that I preferred "blank paper" to your paper, I might be in the position you seem to have so holy a horror of, but I have not, of being "solitary and alone." But that was your *version* of, though *not my sentence*. The sentence cannot be made to bear that construction by the most consummate ingenuity, test it who will. I now say *were* you to forbid discussions on all or any agricultural matters—or, further still, *were* you to advocate and urge such a doctrine as the above "*facts*" as a proper principle for breeding and experimenting, I would not hesitate in saying the last would destroy my confidence, the former would make blank paper, in an agricultural view, as valuable to me, or more so, than yours, and in this you would soon find me not "solitary and alone." The popular view of a question never sways me; if I believe I am right, I am not intimidated by that bugbear

to the timid: "the rest of mankind," "the popular side." You say, "some may (which means yourself, of course,) attribute it to his extraordinary zeal for discussion." As this is a voluntary pleasure to you, and can do no harm, enjoy it—I will not disturb it. You will find, I think, you have not learnt fear of public opinion of those who have read the *whole* sentence; nay, I challenge you to read the *whole* sentence, and not permit your *wishes and feelings* to obscure your judgment, and I defy you to hold to the same version you gave of it.

Your attack on me, with the position I hold to your "Farmer," was unfortunate for you. I expect I am the oldest subscriber to it on your list—have been a subscriber all the time, even with Skinner—have all the volumes bound and preserved, including Skinners—have procured many subscribers—always paid in advance, and been for years past a subscriber and payer for two volumes each year regularly. Can any other paper show a more untiring friend? Do you think you can sustain yourself in such a charge, so unsustained by the *sentence* itself, with such an array as this against you? Now if my preference is of "blank paper," as you charge, what a charge (if persisted in) you are making against your own paper for value, for I regularly paid for yours—and as no power on earth could make me subscribe for a paper that neither interested, amused or instructed me, yours would have to be full of nothing. Your own self-respect compels you to reverse your views, if justice did not—the last you cannot resist.

J. W. WARE.

Berryville, Clarke Co., Va., Aug. 4, 1859.

### An Enemy of the Curculio.

For many years we had supposed that a species of ichneumon preyed upon the grubs of the common curculio, and last week we obtained evidence that our supposition was well founded. A young lady friend of ours was eating Breda apricots, and called attention to an insect in the interior of one. This was an ichneumon, closely allied, if not belonging to the genus *Pimpla*. It had but newly left its pupa case, and the wings were still damp. We secured it for examination and description, but, much to our regret, the glass in which it was placed was accidentally overturned, and the insect lost. Since then, every apricot coming into our hands has been carefully examined for another specimen, but without success. It is to be hoped that this foe of the curculio will increase, and thereby assist in obtaining crops of plums, nectarines and apricots, not forgetting apples, peaches and cherries. From appearances, we think that these ichneumons leave the fruit about the beginning of the present month, and that there are two broods of them in the season.

The female in all likelihood, deposits her eggs in the larva of the curculio immediately after the latter is hatched. She is provided with a long ovipositor for this purpose, and may be discovered, in the early part of the season, sitting on the stung fruit, and plunging this instrument into its substance. Instinct never deceives these insects in selecting a place for the deposition of their eggs.—*Mass. Ploughman*.

### How to Avoid the Wheat Midge.

The red weevil (more commonly called the midge) is a comparatively new-comer in this latitude. It is one of the most destructive enemies of the wheat crop where it has existed for a length of time, and we may expect that in the future it will not spare us. We give the following practical suggestions from the *Rural New Yorker*, published at Rochester, in the midst of a country which has suffered very much by its depredations. Their timely application here may prove very useful:

The practical question which arises among cultivators is, how can we best evade the midge? Many conjectural and some very plausible theories have hitherto been promulgated on this point, few of which have proved of any great value, being either impracticable or too expensive. The result of careful experiments, by some of our most intelligent, observing and experienced grain growers, however, proves that there are three requisites to successful wheat culture in regions where the midge prevails, and these we will briefly enumerate and discuss.

1. *Varieties.*—The first and most requisite is to secure and sow seed of early and hardy varieties—such as the Mediterranean, Golden Drop, Dayton, &c. Those who have grown these, and experimented with more recently introduced varieties, the past year, have been quite successful.—The Mediterranean has improved in quality of late years, and also in productiveness. In some instances, last year, from thirty to forty bushels per acre were produced in this county, the grain being of excellent quality, and we presume (from the fields we have examined) that the yield and quality will both prove good the present season. The Dayton variety was grown in Genesee county last year, and gave good satisfaction—escaping the midge and producing thirty-five bushels per acre. The success of the experiment induced several farmers of Wheatland, in this county, to procure (from Ohio) and sow seed of this variety last fall, the product of which escaped the midge and looked very promising two weeks ago—when nearly ready for harvesting. As we stated in the *RURAL* of the 16th, (after examining about seventy acres on the farm of Hon. Elisha Harmon,) “it is a very fine variety—a white bald wheat, with stiff straw, and if it acclimates as well as the Mediterranean will prove invaluable in this region.” Other new varieties have been tried on a small scale this year—such as the Boughton Wheat, (seed from Virginia,) by Mr. Wray, near this city, and the Early May, (seed from Southern Illinois,) by Mr. James White of Wayne county. We hope to hear soon from these and other gentlemen who have experimented with new varieties, and that they will state time of sowing, yield per acre, quality, &c., for the benefit of the public.

2. *Time of Sowing.*—The general opinion among our best farmers is that, whatever seed is used, it must be sown early to escape the midge. Some are of the opinion that the Soule's wheat can be successfully grown—as it has been this

past season—by sowing as early as the 1st of September on rich, dry and well prepared soil. It should be remembered, however, that the present season has been more favorable for wheat in this region than any other for perhaps twenty years, and hence that the result this year is not a safe index for ordinary seasons. We should prefer the early varieties, such as those named above, and would sow as early as possible after the 25th of August—say the last week in August or first in September. This is the opinion of our best farmers, and those who have experimented most, and been most successful in wheat culture, since the prevalence of the midge.

*Soil and Culture.*—Early varieties and early sowing will prove of little avail without a rich, dry wheat soil and good culture. The great cereal cannot be produced advantageously on poor, wet land in any part of the Union, and especially in sections where the midge prevails. To produce wheat abundantly and profitably, the soil must contain the proper elements, and be in the right condition. In many cases underdraining is of the utmost importance, even on farms where it is not considered necessary. No one need expect to grow good wheat, and evade the midge, unless he has a rich, warm and comparatively dry soil, and gives it good culture,—but with these, and attention to the requisites above named, we believe wheat can again be cultivated successfully in Western and Central New York and other midge-infested sections of the country.

### Gardening for Women.

First of all, then, there can be no doubt that if the women throughout our country were to take more interest in gardening, and to take more exercise or do more work in their gardens, they themselves would not only be healthier, but happier, and their offspring would inherit from them constitutions more vigorous, and having a greater power of endurance. This improvement in the health and vigor of our women would lead to several other desirable consequences, among which we have space to name only one, namely, the removal of that fear of having a sick, feeble, faded wife upon one's hands for many long years, which has made not a few bachelors and quite a number of old maids.

Another of the benefits which would result from skill and labor in gardening, and from a taste for such work among American women, would be that there would be fewer shamefully neglected gardens among the farmers of our country. Most farmers, it is generally known, neglect their gardens, pleading as an excuse that they have not got time to attend to them.

Another good result which would flow from an increase of interest or taste for gardening among our women, would be that more men who do business in cities, would possess themselves of residences in the country, where their wives and families might enjoy the pleasure and benefits of country life. The above are not all the good results which might be named, but for the present they may suffice.

The grand essentials to happiness in this life, are something to do, and something to love.



### The Culture of Fish.

We give the conclusion of the interesting treatise on Pisciculture commenced in our last number, and again commend it to the attention of those having running water through their premises, and especially to those *who own their own springs*. Nothing, in that event, can interfere with the purity of the water. The illustrations are accurate and valuable:

In the course of a few hours after the process of fecundation, a change may be seen in the eggs. At first they become opaque, but soon resume their transparency. A small, round spot next appears, which gradually extends until one end takes the shape of a tail, and the other that of a spatula-shaped head. Two black points upon the side presently turn into eyes. It is not long before the young animal gives sign of life by motion of the tail. As the egg opens, the head and tail first emerge, and then the umbilical vessel attached to the belly of the fish, and there retained for some time, as its only source of nutriment. The figures following represent the trout as it appears before and after the absorption of this food-supplying appendage:



Egg of the lake-trout—Natural size.

A trout of one month—the vesicle still attached.



The trout, after the umbilical vessel is absorbed.

In case the eggs in the hatching-box become covered with film, from the impurity of the water, they should be cleansed with a feather or with a fine brush of badger's hair.



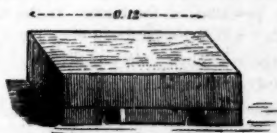
The eggs may be transferred from one vessel to another by means of a glass pipe, the stem of which is closed by the finger.—The egg is made to enter the tube by removing the finger.

The young fish very soon display differences of nature and instinct.

—Some, like the pike and perch, quickly free themselves from the umbilical vesicle and shoot about with great vivacity. Others, as the salmon and trout, retain their provision bags longer—seem more sluggish—and huddle together in dark corners.—Some kinds are so bold and hardy that they require but little care. The pike, for instance, and the trout, may

very soon be put into ponds and rivers, where they will look out for themselves. But others, more delicate and often more valuable, must be kept in artificial basins, until they have acquired strength to resist the destructive agencies that await them in the ravenous waters.

In a box less than two feet long, six inches wide, and four inches deep, Prof. Coste has sometimes reared to a sufficient size for removal, no less than two thousand salmon at a time.



Artificial shelter for the young fish.

The basin used at the College of France may serve as a model for the receptacles above named. It has different compartments for the fish of different ages. The wall is built waist-high, that the fish may be conveniently overlooked. Here and there, on the gravelly bed, are small heaps of rounded pebbles. Little shelters of earthen ware are scattered about, that the fish may have dark places in which to hide and rest. A few aquatic plants are added, to complete the conditions which would be found in nature.

The salmon, the trout, the eel, and the *embre chevalier* are fed upon boiled beef or horse flesh, which is prepared for them by pounding in a mortar. These delicate morsels are eagerly seized by the young fish. After eight or ten days the boiled flesh is exchanged for raw, which is pounded and given in little pellets. At Hummingue, salmon and trout are fed with the flesh of other and cheaper fish, which is prepared for them by pounding. Small earth-worms and the minute crustacea of stagnant waters are sought with avidity by these young fry.

For the proper acclimation of fishes, and for other reasons, it is often desirable to transport the eggs to a considerable distance. When the eggs are free and separate, with a tough covering, as is the case with the salmon and the trout, pine boxes are used. These are filled with sand or moss, or fragments of sponge, or with some aquatic plant, in the moist folds of which the eggs are ranged in layers, as may be seen in the figure:



Section of transport-box, the eggs resting on a bed of humid moss.

The eggs, which come in agglutinated clusters, with tender envelopes, such as the spawn of the carp, the roach, the perch, &c., cannot be conveyed so easily. The best method is to put them into jars, three-quarters filled with water, and containing some aquatic plant. There is another class of eggs which are deposited upon grass or small sticks. Let these, with the object's

to which they adhere, be wrapped up in a wet cloth, and then be put into a box or basket.

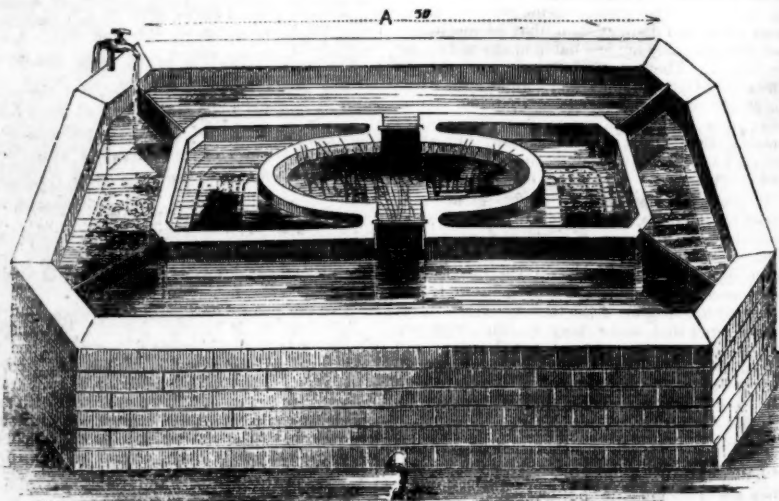
The young fish also are often transported to great distances in bottles containing water and some living aquatic plants. The water must be renewed from time to time. To keep up the supply of air, which fishes must have, no less than animals which live in it, an ingenious apparatus has been devised by some fisherman of the Vosges. The vessel which holds the fish is swung at the back in the style of the rag-picker. A bellows, like that of the Scotch bagpipe, worked under the arm, sends at pleasure its current of air through the water that contains the fish. An occasional squeeze of the bellows keeps the fish in good breathing condition.

Among those in our own country who early gave attention to this subject, was Dr. T. Garlick, of Cleveland, Ohio. Experiments were made on the speckled trout in a spring-brook, near Cleveland. The parent fish were taken in the waters of the upper lakes, and transported some six hundred miles. For lack of experience in transporting the fish, the first shipment was a total loss. Subsequent efforts were more successful, and in a few months, the Dr. and his associate, Prof. H. A. Ackley, had the satisfaction of seeing the first

fruits of a successful effort in the production of a host of young trout.

The full account of that experiment, and a series of papers on the subject of fish culture in France, are embodied in an interesting work, published by A. O. Moore, of New York. To any one who should be inclined to make experiments on this subject, this book would render excellent service.

The experiments of Robert L. Pell, Esq., of Ulster county, with several families of fish, we published some time since. Arrangements were made some year and a half since, in Connecticut, in one of the branches of the Connecticut river, connecting with a fine lake of pure water, some miles from its junction with the Connecticut river. We have not heard of the result. We should be happy to hear, through any of our readers who may reside in the vicinity, what has been the success of the experiment in Connecticut. No country in the world affords finer streams or waters for operations in this new enterprise than our own. We have every variety of climate and temperature of waters. Some of our streams, which once abounded with the finest fish, are now as barren as the streams in countries four times its age.



Fish-Receiving Basin in the College of France.

**IMPORTANT TO ALL.**—The great plague of summer is the insect tribe, which destroys the fruit of many trees and the shrubs and flowers that adorn our rural homes. The following is presented as a specific remedy. It is worthy of trial:

"A solution of whale oil soap will destroy the numerous insects that infest trees and shrubbery at this season of the year. Dissolve the soap in warm water, making 'suds' of medium strength, and sprinkle the leaves with a syringe. This specific is sure death to the caterpillar, miller, and the army of savages that destroy the foliage.—

Now is the time for the application."—*Albany Argus.*

**AWARD OF TOBACCO PREMIUMS.**—The Agricultural Society of Lynchburg, Va., has awarded the first premium of one hundred dollars to Captain Robert Jennings, of Halifax, for fine manufacturing wrapping tobacco, which was sold at ninety dollars per hundred, and the second premium of one hundred dollars to Mr. T. G. Wood, of Roanoke, for best manufacturing fillers, which sold at forty dollars per hundred.

### Mules vs. Horses for Steady Labor.

The prominent reason for using mules in teaming and farm labor in preference to horses are briefly exhibited in the following views: They live to a much greater age; a mule has scarcely attained his matured strength at twelve years old, an age in which horses have commenced a rapid deterioration in value and usefulness; the average life of the mule is about thirty years, but often at forty they are known to perform efficiently the most labourous services. A team of mules will accomplish almost the labour of horses with a consumption of about one-third less provender. Within the last few years mules have been extensively introduced into the teaming operations of the manufacturing district in which I reside, and are universally considered there more efficient and economical for that use than horses. Mules are subject to but few of the diseases which prevail, and are so destructive among horses. Their hard skin and short hair render them less liable to be galled by the harness or affected by cutaneous diseases. They are said never to be infested by vermin. The hoof of the mule is essentially a horny substance, and of slow growth, and hence his shoes are seldom cast or displaced in the position, but remain until worn out, firmly on the feet. The vision of the mule is much more quick and distinct than that of the horse, and therefore they are less liable to shy or become frightened. They are sure-footed to a proverb. The mule excels the horse and emulates the ox in his steady and uniform efforts in labor. It is objected to mules that besides their disagreeable braying, they are obstinate and slow, but these defects I believe may be overcome by gentleness and practice.

If these various traits of usefulness are possessed by the mule, the conclusion seems to be irresistible that his general introduction to the labor of the farm would be an important and most desirable improvement. The breeding of these animals is a subject worthy the serious and considerate reflection of the farmer. It is evident to my mind that mules may be bred with less care and expense than horses, and that they will command a price nearly equal to that of an ordinary horse, while the demand for them is prompt and continually increasing.—*W. C. Watson, in Genesee Farmer.*

The objection made to mules, that they are obstinate and slow, arises from the bad treatment they are too commonly subjected to. In the first place, in "breaking" them, it is quite too common to suppose that it is necessary to break their heads. This is a great mistake. There is no animal more easily controlled by kind and gentle treatment than the mule. It is surprising how docile, gentle and fond of his driver he becomes when handled with care and consideration. When treated otherwise, it is not surprising that he becomes obstinate.

As to becoming "slow," if he is more given to that than the horse, it is probably owing to the hard work he is subjected to when young. A young mule, like a young horse, should be very

moderately worked the first season. He is quite capable without injury to himself of doing more work than a young horse, but neither should be put to hard work for any length of time the first season of breaking—nor until their constitutions are well matured. There is much difference in the natural spirit of animals, but if kept to light work until four or five years old, and to his natural quick step, the mule will not probably become slow at any work he is capable of performing.—*Editor of American Farmer.*

### Fawkes' Steam Plough.

The exhibition of the steam plough, held at Oxford park last week was well attended. The ploughs worked admirably, and at the rate of five acres an hour. The *Scientific American* says: A committee of the Pennsylvania State Society, consisting of A. O. Hester and C. K. Engle, witnessed the operations on the 21st ult. and have made a report on the subject, a copy of which has been sent to us. The following is a part of it:

"The soil was in good condition, owing to the late rain, which rendered the experiment more satisfactory.

The engine, which is of 30 horse power, is adapted to either wood or coal, and when the latter is used, consumes about a half a ton a day.

All doubts of its success were speedily removed. The ploughs, eight in number, which were suspended by chains in a frame attached to the rear of the machine, about eighteen inches above the ground, by means of a slight adjustment of a crank, were dropped to their proper position for action; and at the sound of the whistle the plough moved forward in the most graceful manner, performing its work with ease, and to the admiration and perfect satisfaction of the most skeptical.

The soil was made to yield to the united action of the eight mold-boards, each turning a furrow slice of fourteen inches in width, and six inches in depth, moving at the rate of four miles an hour (or four acres an hour.)

The experiment was made upon a tough timothy sod, which had not been ploughed for some seven years previously.

Mr. Fawkes, to show its capacity for easy locomotion over uneven surfaces, propelled it rapidly over several gullies, one of which was fully eighteen inches in depth, while others were very abrupt, and did this without any apparent detriment to the machinery.

It may be proper to add, that Mr. Fawkes placed the machine entirely at the disposal of the committee, and subjected it to every test which they suggested.

One of the committee familiar with prairie ploughing, affirms that he has never seen level prairie turned as beautifully by horse power as the uneven timothy sod was by the steam plough."

It is the intention of Mr. Fawkes to compete for the large prize of \$5,000 at the next Fair of the Illinois State Agricultural Society, and he is quite confident of success.

# The American Farmer.

Baltimore, September 1, 1859.

## TERMS OF THE AMERICAN FARMER.

Per Annum, \$1 in advance—6 copies for \$5—13 copies for \$10—30 copies for \$20.

ADVERTISEMENTS.—For 1 square of 8 lines, for each insertion, \$1—1 square per annum, \$10—larger advertisements in proportion—for a page, \$100 per annum; a single insertion, \$15, and \$12.50 for each subsequent insertion, not exceeding five—payable quarterly in advance.

N. B. WORTHINGTON,

Publisher of the "American Farmer,"  
CARROLL HALL, S. E. Corner Baltimore and  
Calvert streets, Baltimore.

## OUR PREMIUMS.

We give notice, that with the consent of those most interested, we have determined to defer awarding the premiums we offer for the largest lists of subscribers, till the 1st of December, in order to give our agents the opportunity of enlarging their lists. The fall season is much the best for an active canvass, and we hope they will all make every effort to increase their numbers. We are frequently met with the assertion that "every body takes *The American Farmer*." This is not quite so true as it ought to be, and it is because we wish to make it true, that we offer the unusually large premiums which we very much desire to distribute among our agents.

Any active young man can begin now and make up a list in due time which will probably take the highest premium of \$200.

Our premiums range from \$2 to \$200, and we shall be glad to have many more agents at work. To those who fail to get premiums the commissions are very liberal.

1st Premium— <i>E. Whitman &amp; Co's</i> Double Geared Horse Power, and their Premium Iron Cylinder Thresher.....	\$200
2d— <i>R. Sinclair &amp; Co's</i> Mower and Reaper, (Stetson's Patent).....	\$130
3d— <i>Bickford &amp; Huffman's</i> Grain Drill.....	\$90
4th— <i>Boyer &amp; Bro's</i> Plantation Mill.....	40
5th— <i>J. Montgomery &amp; Bro's</i> Wheat Fan.....	34
6th— <i>Sinclair &amp; Co's</i> Corn Stalk Cutter and Masticator.....	\$30
7th— <i>E. Whitman &amp; Co's</i> Premium Sub-soil Plough \$10, and Gleaner \$12.....	\$22
And thirteen premiums in cash from \$20 to \$2.	

These implements are all first class, and worth in this market the price attached to them, and can be readily converted into money by those who wish it.

We ask our agents to have specimen numbers of our paper, and make use of the testimonials we publish from old subscribers. For further particulars see August and July numbers. They will oblige us also by distributing our supplement freely.

## Our Business Agency.

When the Proprietor of *The Farmer* purchased the establishment, twelve months ago, his purchase included the agency or commission business, which had been associated with the publication during the three years in which he had been half owner. Wishing at that time to devote himself exclusively to duties more directly bearing upon the interests of the Magazine, he voluntarily relinquished that business, and it passed into other hands. For reasons not necessary to state at large, he now wishes to resume such an agency, and will be glad to receive and execute orders for any thing which the farmer may wish to purchase in this market.

His arrangements enable him to give prompt and efficient attention to all orders, on the best terms which the market will afford for a good and reliable article. His position and business relations afford him the best opportunity of knowing the character of the various matters offered for sale, of whatever sort, and of those who deal in them. Moreover he has no personal interest whatever in any article or manufacture offered for sale. His own mind is entirely free to advise or give necessary information to those who seek his aid.

There is one view of this matter which we think proper to present to our readers, and that is the importance to them, and the agricultural community at large, of maintaining and supporting liberally a thoroughly disinterested and independent Agricultural Journal. If the *American Farmer* is not entitled to this character, it has no claim upon them for support. But if it is, and if it is expected to hold a place here as the mouth-piece of the agricultural community, to guard and watch their interests in a most important market, it becomes the interest of that community to give it such substantial support that it shall not be dependent for its prosperity upon those whose interests are not identical with their own. We ask them for their patronage therefore, not only for our own sake and because we are entirely confident of our ability to give them the fullest satisfaction in filling their orders, but because we desire that *The American Farmer* may be dependent for an ample support chiefly and mainly upon that class which it professes and intends to



represent—the farmers and planters who have business relations with Baltimore.

**Peruvian Guano.**—We are prepared to furnish Peruvian Guano at the lowest retail price of the market for a pure article. In all cases we deliver it directly from the warehouses of the Peruvian agent. We keep no stock on hand, but purchase only to fill orders as they come to us.

**Elide Island or California Guano.**—We can fill orders for this Guano, direct from the importer, of the best cargo brought to this market. There is a material difference in the value of the several cargoes offered for sale.

**Ground Bones.**—We can furnish Ground Bones of undoubted purity, which have never been used for any other purpose.

**Phosphatic Guanoes.**—We will purchase any of the Phosphatic Guanoes in large or small quantities, at the lowest rates, and guarantee them by the analysis of a chemist of the highest character.

**Manipulated Guanoes and Manufactured Fertilizers.**—We will purchase any of these articles offered in the market, and furnish them at manufacturers' prices, and give the purchaser the benefit of our advice, when desired, as to the quality of the several articles offered for sale.

**Seeds.**—We will furnish seeds of all sorts, of the best quality, for the farm, the vegetable or flower garden.

**Fruit Trees, &c.**—For those sending their orders to us early, we will make arrangements to furnish fruit trees of every sort, from the most reliable sources. We are convinced that it will be in our power to save much disappointment to purchasers in this department.

**Implements.**—We will give particular attention to the purchase of agricultural implements, and will purchase wheat drills, threshing machinery, wheat fans, and all other machines and implements—furnishing them at manufacturers' prices.

Our design is to build up an Agricultural Agency, to which the agricultural community may resort with full confidence as being entirely disinterested and having no connection with or interest in any branch of trade or business in the city, and we ask in it the aid and support of country friends for their own interest as well as our own.

—♦♦♦—  
The Virginia State Agricultural Society, and the Union Society of Virginia and North Carolina, have made an arrangement by which the State Society will hold their next Annual Fair on the grounds of the Union Society, in Petersburg, on the first week of November.

### Guano Monopoly—Rise in Price.

In our Monthly Supplement of the 15th of August we alluded to the rumour of an arrangement, by which the Peruvian Guano in market had been thrown into the hands of a few parties to enable them to exact of the consumer a much larger price. We refrained from the expression of any opinion upon the subject at that time, as well from a sense of justice to the parties concerned, as of duty to our readers in a matter of much importance to them. We had no facts upon which we could safely base an opinion. We thought it, too, just possible, that in the eager competition of trade, there might be a motive in the rumor more active than any which is usually exhibited in behalf of the agricultural community, to check the sale of a leading article for the purpose of substituting another. We say we thought it just possible that such a motive might exist. We know how easily men's judgments are misled by their interests. And we know how very easily facts may be perverted to give currency to error. We were therefore the more cautious to hold ourselves aloof, lest in too great zeal to denounce a grasping monopoly, we might unwittingly make ourselves a party to a smaller but equally selfish game.

In looking into this matter, we are doing so with no other purpose than to give our readers such information as we can now command, and to make to them such suggestions as the case seems to require. It is no part of our purpose to defend the dealers. We are inquiring in behalf of the consumer whether there is such evidence of an outrageous double monopoly that he should lose sight of what he may consider his own interest, for the purpose of punishing the monopolists? Whether there is so large a supply of Guano in market as will justify the expectation of a lower price? Whether it is advisable to buy at once, or postpone to the latter part of the season?

To sustain the charge of an odious and exorbitant double monopoly, it is clearly necessary to show, first, that there is an ample supply of Guano on hand; then, that this Guano has been put in the hands of a few parties out of the usual course of trade, giving them the power to exact a large advance; and then that their advance of price has been exorbitant in proportion to the risks and chances they have incurred. The information we have been enabled to gather, after careful search, does not sustain either of these propositions, or, in our judgment, render them probable.

In the first place, it is a fact that the quantity of Guano in the market in all this year, including

what was left over from '58, does not exceed 30,000 tons. Of this, the winter and spring sales (we have from reliable authority) were 12,000. When we take into consideration the large and increasing consumption in the Cotton States, both of Peruvian and Manipulated, in addition to that for the corn, tobacco and potato crops, there is no difficulty in believing this statement. It leaves in the Baltimore market 18,000 tons.

Of this, there has been sold to dealers, at three different points in Virginia, 4,000 tons—leaving here 14,000 tons. To this point there is surely no symptom of an attempt to monopolize.

About the 10th of August a very large New York operator came into the market and bought 6,000 tons to fill his Southern orders. This was unquestionably a large operation, but there is nothing in it to sustain or give colour to the charge of collusion for the purpose of making an exorbitant advance. It seems, so far as we can learn, to have been the legitimate transaction of a very large dealer, perhaps the largest in the United States, to fill his Southern orders with Baltimore Guano, for the reason that Baltimore Guano, on account of the inspection and better handling, is preferred in the Southern market. He bought here a better article at the same price. This transaction left the market clearly short of a supply, and it is this that has made the difficulty.

We have now 8,000 tons left, and the fall sales just opening. But this 8,000 tons, an entirely inadequate supply for the market, has been bought by some three or four regular dealers—one man saying "I will take so many tons," another "so many," and another takes all the rest. Is there anything unusual or extraordinary in this under the circumstances? Suppose *one* man, being able and finding that he could make a safe and profitable transaction, had bought the whole, we ask, is there one other man in the city of Baltimore who would not have done just the same thing, had the opportunity been offered him?

But the exorbitant exaction of four or five dollars a ton, how is that? This is answered by the fact that Guano is to-day not one dollar a ton higher than before this state of things took place. Moreover, there is this conclusive circumstance against the design of a very material rise in price, that there is Guano enough to be bought in New York at the price which these dealers have paid, and which would be brought at once into competition with them if an attempt was made to exact a very large advance. As it is, the dealers who have obtained this Guano are selling at a price which the consumer must un-

questionably have paid for a less desirable article from New York, had the market here been further exhausted by the New York operator, as it was likely to be, but for the promptness with which the remainder was taken up by the Baltimore dealers.

This bug-bear of a combination, then, for the purpose of monopoly and extortion, falls to the ground. We have taken the utmost pains to search it out, and are entirely satisfied that the rumour is a trick or a delusion. Our readers need not therefore trouble themselves to get up any amount of indignation on the subject. We think they may consider themselves perfectly free from any obligation to punish the dealers here at the expense of what they may consider their own interest. If any of them think Peruvian Guano better worth \$62 the long ton than Manipulated \$47 the short ton, there is no occasion to disturb his judgment with the spirit of revenge.

Now is it advisable to buy at once or to postpone in hope of a reduction in price?

It is known that there are three vessels of 1000 tons each on the way around. Advices from Callao of the 11th of June reported them as loading at the Islands, and on the 27th of the same month they are reported as having sailed. Supposing them to have sailed by the 20th of that month, and allowing the average of one hundred days for the voyage, it brings us to the 1st of October, without an accident. But there is no certainty whatever that they will come to Baltimore at all. They are destined to Hampton Roads for orders, and may come here or not. Would it be prudent to postpone buying for the contingency of the price here being affected by this 3000 tons? As to the 12,000 tons to come some time this fall, that of course is out of the calculation.

There is Guano enough in New York, but is there the slightest symptom of a reduction of price? Had there been any before, nothing could have been more certain to prevent it than these charges of exaction and collusion. How is this Guano to be brought into competition with that now here, so as to reduce the price? It costs the dealer in New York, purchasing 1100 tons, \$60 per ton, with a discount for cash equal to 60 cents, or \$59.40 net. Put upon this the charges for freight, insurance, inspection, wharfage and handling, and there is an addition of \$2. The purchaser then of the largest quantity lands his Guano of inferior quality here, at a cost of \$61.40. Is there any probability that he can offer such competition in the trade as will reduce the price for a prime article below \$62? We

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think not, and under this impression we advise our friends to make no unnecessary delay in making their purchases. We do not think that there will be a further advance in prices. But we do think the short supply and the small profit to be made by those who buy in New York and those who are supplied through them, will offer unusual inducements to fraud; and that those who get their supplies from the stock now in hand, and direct from the Peruvian Agents Warehouses, will be likely to fare best as to quality.

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We have no wish in commenting upon the letter of Col. Ware to excite another discussion, and shall therefore touch one or two points as lightly as possible.

We attached by no means so much importance to the remark made by Col. Ware with reference to *The Farmer*, as he seems to suppose. He denies that he *intended* to say what we think he did say, and such a disclaimer would have been quite sufficient. But he charges us with an attack upon him, a subscriber for two copies of *The Farmer* and one of its oldest friends, and that we have misstated and misrepresented his remarks, and defies us to read them without prejudice and hold to the same opinion. We must, therefore, to defend ourselves from the charge of ingratitude and unfairness say, that Col. Ware *did* say just what we attributed to him, and *nothing else*.

What we said was this, that "speaking of such discussions as this in which he (Col. Ware) has taken so conspicuous a part, he remarks that but for them 'your journal would not be worth to the farmer the paper on which it is printed.'" Here are Colonel Ware's exact words as quoted by himself: "I think every subject connected with farming, brought forward in farming journals, should be fully discussed by farmers for the good of their own class. It creates the value of your journal." Now, pausing here, may we ask *what* creates the value of the journal? Manifestly the discussion of all these subjects by the farmers. "If otherwise"—that is, if there are no discussions—"your journal would not be worth to the farmer the paper on which it is printed." The discussions create the value; the value is the result of the discussions. Can any thing be plainer than this? Now if discussions "create the value," and there have been no discussions during the past year, say, but this one of Colonel Ware's, how much value, according to his estimate, is to be attached to all else which we have published? We think it must appear, therefore, that we have not misrepresented what Col. Ware

said. If he meant something else, then he ought to have said *that*.

Col. Ware thinks we have exhibited some impatience with reference to his articles, and infers and charges that under a profession of impartiality we are taking sides against him. We said in the beginning that we did not intend to take part in the discussion, but we surely did not impose upon ourselves an obligation not to do so if we saw fit. We hold, however, now, just the opinion we expressed in the beginning, and that is this: "It is not our opinion that the fine-wooled sheep come at all into competition with the Southdowns and Cotswolds as a profitable mutton sheep, or for mutton and wool combined, where there is access to a good market for mutton."

As to the fact we mentioned as coming from a farmer of Gloucester county, whatever Colonel Ware may say as to the principles of breeding, it is strictly pertinent to the question of the value of Cotswolds for crossing on our country sheep under the ordinary circumstances of farm management, and we are quite willing to give all such facts on either side, not as "*conclusive*," as Col. Ware asserts we did in this case, but *as we said*, "for what they may be worth."

As to any impatience we may have exhibited, we can say candidly that it arose from the fact that previous to Col. Ware's last article, which occupies about eight columns of our paper, there had been six columns in all in favour of the Merinos, and in favour of the Cotswolds six and three-quarter columns from Col. Ware; one and a quarter written by Mr. Baylor for *Southern Farmer*, and sent to us by Col. Ware; two and a half columns from Mr. Kilgore, of Kentucky, and two from a neighbour of Col. Ware's, "a Clarke county breeder," making in all twelve and a half columns on one side to six on the other. When Col. Ware proposed to add eight more to the twelve and a half, we did think it was somewhat overdoing the matter. We held the article over, as he says, from April to August, and asked him to shorten it, and we published it finally, rather from our unwillingness to disoblige him, than because justice demanded its publication. If we have proved ungrateful to Col. Ware for his subscription for two copies of *The Farmer*, and other favours which he mentions, may we hope that his Cotswold Sheep have received an amount of free advertising in our columns which will indemnify him for the past and secure him for the future.

—•••—  
We are indebted to Mr. Zink, of Govanstown for some fine specimens of the Bartlett Pear.

### Answer to Correspondents.

"Salt, I presume, is a fertilizer. How should it be applied—broadcast, or drilled in with guano and the wheat? Can it be drilled in? Are the machines adapted to it? Will less guano do? How much salt and how much guano, if drilled in? If broadcast, how much salt per acre? and should it precede the seeding? Is covering it important?"

June 28.

W. R.

It is hardly determined that salt is strictly a fertilizer. It is thought, however, by observant farmers, who have experimented with it, to be beneficial to the wheat crop, in strengthening the straw and hastening maturity. It should not be used in the drill, but sown broadcast—four to six bushels to the acre. It may be mixed with guano, if that is to be sown broadcast. It is not necessary to cover it, and it may be harrowed in or not, as convenience may dictate.

"First. What is the surest, cheapest, and most efficacious mode of extirpating, eradicating forever, the sassafras from our fields, and the "flags" and "star grass" (as they are commonly called here) from our yards and gardens?"

Secondly. What is the best disposition we can make of our tobacco stalks?

Thirdly. What has caused the rapid decay of our pines and Lombardy poplars of late years?"

There are many recipes for exterminating sassafras and other such plagues, which are efficacious in proportion to the care bestowed upon them. The scythe is the most certain. Cut them down early in the season, and keep them cut or closely grazed. High culture, by keeping the ground well occupied with valuable cleansing crops and grass crops to be mowed for hay, is very effective.

Tobacco stalks make a very valuable manure for almost any crop. Mixed with rich earth and composted under cover they make an excellent manure for the garden and for tobacco beds. Used alone, they are good to put in the drills with potato plantings. They are good for grass land. But the proper use to make of them on a tobacco plantation is to put them on the tobacco land, and restore to it the elements of which they have robbed it.

The dying of trees alluded to is doubtless the effect of insects—an enemy to the farmer whose name is legion.

"Will you, or some of your correspondents who have had some experience in raising poultry and keeping them for laying, give, through the columns of the "American Farmer," their mode of treatment of fowls kept for laying, also, if profitable?—Satisfied that information upon this subject will be of interest to others as well as to your humble subscriber, LEO."

We should be glad to hear from any of our

subscribers on this subject. See article in August Monthly Supplement.

"I have a very rich piece of bottom land that produced me fifty bushels of corn every year, without the aid of manure, until within the last four or five years, and it is now so that it will not make seed; weeds grow strong on it, but no grain of any kind will grow on it. There is a gold mine about six miles above my farm, and it must be the water drawn out of said mine, or the sand of the ore after it is ground, or some ingredient in it that produces that effect."

It is not in our power to enlighten our correspondent as to the difficulty he has to contend with. Perhaps some of our readers can. From his account we should suppose that the water overflowing his land contains some poisonous ingredient, or washes down some barren sand from above, which overlies too thickly his rich bottom. We cannot advise him what is best to do with it, except so far as possible to prevent the overflowing.

"I wish to know what crop you would recommend as a substitute for the wheat crop? The uncertainty of this crop, of late years, in this section, notwithstanding Peruvian Guano and the humbug artificial manures now in vogue, is worthy, I think, of our serious consideration. Our wheat crop here, as far as my knowledge and experience extend, makes poor returns for the amount of money spent in Guano and manures—(I'll not say fertilizers, for I do not believe Guano to be one.) I can readily account for our failures, the reasons for which are several, but I believe the chief one is a want of change of crops. I wish to change mine. Will not you by some means inform me how buckwheat—a short article on which I saw in your June number—would answer, and how barley would do on our soil? The soil of my farm is partly stiff, with a clay subsoil, and partly what we term a chocolate soil, and is all very susceptible of improvement. I am entirely ignorant in the art of cultivating these two crops, and would like to be informed all about it—what time they are seeded and reaped, which is best to cultivate, whether our climate and soil are adapted to their growth, and how each sells in market, and, in short, whether either would pay better than wheat."

The question of a substitute for the wheat crop is certainly one of much importance. We should be very happy to be able to give our correspondent a satisfactory reply, and beg the assistance of some of our able contributors. With regard to the several crops mentioned by him, they have never been able as yet to take the place of the wheat crop when the latter can be grown with any sort of success. In Western New York, where the midge has for years past proved so disastrous to the wheat crop that it was almost abandoned, barley has been in a measure substituted for it. This crop is said to be about as productive as oats, and the price has been for



some time past from eighty cents to a dollar. We find, however, in our northern agricultural exchanges, that there is a manifest disposition to get back to the wheat culture wherever the midge shows any abatement, and this fall there is likely to be a larger crop sown in the Genesee country, where they have had full experience of the substitutes, than for many years past.

We would not advise, therefore, the substitution of any crop now known to us for wheat, on good wheat land. It may be, and we think is, quite advisable to confine the wheat culture to the best lands, and so occupy less land and give higher cultivation. Good land and good culture are very essential to the wheat crop; they are less so to oats and barley and buckwheat, and by growing these to some extent, we take advantage of several chances, and perhaps fare better on the whole. Barley, like oats, is sown early in spring, and does well on lighter lands than such as are considered good for wheat.

"I have a few acres now in corn which I desire to put in Orchard grass in the Spring or this Fall, and would like to know from those of your correspondents who have experience in that grass the best mode to secure a good stand of grass? I would prefer to have a crop of wheat from it also, if I can do so without injury to the grass, or a crop of oats.

"P. S.—It was about the 10th October when I sowed the seed last Fall.

"St. Michael's, July 20, 1859.

A."

Our correspondent says he sowed Orchard grass last Fall, about 10th of October, and has scarcely a spear on the ground. Is he sure he had good seed? The Spring, however, is the usual and the best time to sow Orchard grass seed. It may be sown with wheat as clover is, and at the same time.

### Book Notices.

We are indebted to friend Edward Stabler for a work of 400 pages, from the press of Lippincott & Co., being *Forty-four Years of the Life of a Hunter; or, Reminiscences of Meshach Browning, a Maryland Hunter, roughly written down by himself*. This book has been prepared for the press by the careful and skilful hand of friend Stabler. Of his own share in the work he says: "I desired as much as possible to preserve the easy and rather peculiar style of the author, as it came from his own sturdy and unpractised pen, because so plain and intelligible that he who runs may read, figuratively speaking, merely lopping out the weeds and bushes which tend to obstruct the view over a landscape, glowing and radiant with native beauties." It is also illustrated by

the pencil of Mr. Stabler with numerous spirited sketches.

The work is a singularly interesting narrative of the most extraordinary adventures and perils of a "mighty hunter." So extraordinary that Mr. S. sees the propriety of bringing forward, in connection with it, as he does, the strongest testimony to Mr. Browning's character for the strictest veracity and integrity. He estimates that in his forty-four years experience, "he had killed from eighteen hundred to two thousand deer, from three to four hundred bears, about fifty panthers and catamounts, with scores of wolves and wild cats."

*Patent Office Report.*—We are indebted to the Commissioner of Patents for a copy of the report for 1858. The late day at which it is received precludes such an extended notice as it deserves at our hands.

We are indebted to Messrs. Armstrong & Berry for *A Manual of Scientific and Practical Agriculture for the School and the Farm*, by J. L. Campbell, A. M., Professor of Physical Science, Washington College, Va. We will give this little work further notice when we have given it more particular examination. In the meantime, we are very glad to see in it a Southern book highly endorsed. Professor Gilham, of the Virginia Military Institute, says of it: "I have very carefully read the manuscript of your work upon scientific and practical agriculture, and it gives me great pleasure to say that I think it eminently suited to the purposes for which it is intended."

*The Weekly Exchange.*—We are in receipt of numbers of this new weekly, issued from the office of our enterprising neighbours of the *Daily Exchange*. It is a double sheet of eight pages, affording a large amount of reading matter at the extremely low price of \$1 a year. It is really too cheap to be spoken well of by any one else in the same business. In the editorial department the *Weekly* exhibits the ability and spirit which have characterized the *Daily Exchange* during its "young career." It is eminently a live paper. It contains literary articles of a high order, also agricultural and horticultural information, and prices current of the most reliable character. There are now being published for the first time, in the *Weekly*, a number of letters of Gen. Washington to Col. Wm. Fitzhugh, of Calvert county, Md., during the Revolution. Our country friends who want a good weekly will do well to try the *Exchange*. The principal objection to it is the price, which we think is really demoralizing—one dollar a year for a weekly issue equal to thirty-two pages of the *Farmer*.

### The Maryland Agricultural College.

We have designed, for several months past, to give to our readers an article setting forth clearly the peculiar and distinctive features of the Maryland Agricultural College. We have found, both on the part of writers for the press and those with whom we have conversed, very confused ideas as to what our Institution proposes to do. Some time since we found it necessary to rebut the idea that an experimental farm was the leading feature of the scheme, and that it was proposed to devote the means and appliances of the Institution chiefly to scientific experiments in agriculture. Then we find the notion prevalent that it is to be a sort of manual labour school, in which the boys are to purchase an education by the labour of their hands. Then again it is expected that a course of training in the College is to conclude with a degree of A. M.—*Master of Agriculture*—instead of the A. B. or A. M. of the Colleges, and that every boy is to be turned out a first rate farmer. In answer to all such we find an extract from the report of the Register in the first circular of the Institution, just issued, in which the whole scheme is so clearly and fully set forth, that we are glad to substitute it for any thing we might write upon the subject.

The Board of Trustees, deeming it right and proper in the organization of every Institution, seeking public patronage, that its designs and objects should, be clearly and distinctly set forth, beg leave to refer to the following Extract from the Report of their Register, Dr. John O. Wharton, as embodying their views and purposes in the establishment of this Institution.

"While the Trustees are constrained by the amount of means now at their command to limit their operations, they desire to make known distinctly the ultimate ends and purposes by which they are governed.

Their scheme then is first, an Educational Institution in its most comprehensive sense. Its definition of education is that it is the united symmetrical development and instruction of the religious, the intellectual and the physical qualities of the man. It recognises the whole man in all the departments of his being as the object of its care. Its aim is not to instruct merely, not to impart knowledge merely, but to awaken, to develop, to train and discipline all the latent in-born powers and faculties of the man, that he may command them for the high and noble uses of which they may be capable, or for which they were designed.

It is not to be supposed then, that what we designate an Agricultural College, aims merely at professional instruction in agriculture. The plan undoubtedly embraces such instruction, but it is far more comprehensive. It claims for the farmer or the mechanic, or for whomsoever its care may be sought, first, his development as a man, trained and fitted to the full extent of his capacity, for all the duties of a man and a citizen.

To this end it offers him the advantage of the most approved systems of moral and intellectual culture; and super-adds to these for his physical training, moderate and systematic exercise in the field and the workshop, as the best means of laying the foundation of future health and energy, in a well developed, robust, physical constitution.

Thus incidentally if not primarily, the scheme embraces the best practical training in agriculture and mechanic arts. The student learns the various useful details of agriculture and horticulture and the mechanic arts: he acquires skill and handi-craft in the use of tools and implements, from the hammer to the hoe, from the scythe to the plough; he learns the construction and management of all such machinery as he may probably have the future use of. These practical exercises are learned simultaneously with his scientific instruction in the lecture room, and the valuable mental habit is acquired of referring practices to their principles, and of watching and noting the facts and circumstances which in practice modify the application of purely scientific theories. The well informed mind, and the cunning right hand will learn to work together, and labor will be enlightened and dignified by its association with science.

As regards moral and intellectual culture and instruction, we propose nothing more, yet nothing less than the system which has approved itself to the wise and learned of many generations. The religious training is more especially the duty of the parent and church. It begins at the mother's knee and its best and most effective lessons are learned before the period of College life. With strict impartiality as to the various shades of Christian belief, the moral character shall here be guarded by vigilance and discipline from corrupting and immoral influences; and by diligent instruction be confirmed and strengthened in the great principles of faith and well living, which rise above all denominational differences and distinctions.

In mental culture we adopt the course of studies of the most approved Institutions for training and disciplining the intellect and cultivating the taste; embracing the study of languages spoken and unspoken: the mathematics in its several departments and applications; moral and intellectual philosophy; the physical sciences—those especially more immediately associated with agriculture, also the science of government, political economy, and political ethics.

In connection with such studies, a patriotism which shall embrace his whole country, and a devotion to the Republican principles of the Government will be faithfully instilled. Its teachings will rise above section and party: will know no difference of class, and acknowledge no personal superiority but what is due to worth and excellence of character.

The scheme of the Agricultural College, in connection with an Educational Institution such as is here sketched, embraces an experimental and model farm with a plan for the advancement of Agricultural Science, based upon practice. Science in its applications to agriculture is in its infancy. Its promise and professions are many, but they are as yet unfulfilled. It proposes theories without number, which want the substantial basis of facts. It is proposed to institute

here a system of experiments made under the most intelligent observation of facts, with an accurate and careful record of all the circumstances attending and bearing upon them. These experiments will be made in the full light of all that Science now professes to teach, but with absolute impartiality as to theories already in vogue, and the strictest reserve in adopting conclusions. Their design will be to contribute in some degree to building up an Agricultural Science on the sure foundation of well ascertained facts.

The farm, in its general management, it is proposed to make a model and an example of the best modes of culture in the several departments of Agriculture. It will be stocked with the best breeds of cattle, sheep, hogs, &c., and the most approved tools, implements and machines.

To complete the arrangements which a system so comprehensive demands, a commodious Workshop, with motive power sufficient for all its purposes, and with space enough for exercise and instruction in most of the Mechanic Arts, at least for those operating in wood, iron or stone, is indispensable. The motive power we have in the abundant and rapid stream which passes through the farm. Will the means to erect the building and purchase the requisite machinery be denied us?

### FLORICULTURE—Sept'r., 1859.

Prepared for the American Farmer, by Wm. D. Brack-  
enridge, Florist.

Before cold and frosty nights set in, it would be well to have all plants now growing in the ground, and intended to decorate the green-house in the winter and spring, lifted and placed in pots, after which, they should be sheltered and shaded under a glass frame for a few days, until they take root. Towards the end of the month all plants that have been standing in a shady situation during the summer, ought to be removed to a position where they will receive more light and air, in order to harden their tender growths; and should the weather set in cold and wet, such plants as are delicate should be placed under glass; but previous to this all green-houses and plant structures should be thoroughly overhauled, and have such painting, glazing and whitewashing done as is necessary; also, see that the heating apparatus is in good working order.—Before removing plants under glass they ought to be neatly tied up to stakes and have the pots washed clean, for no green-house can look well when the pots outside are covered with green moss and other filth.

During the early part of the month is a good time to shift into larger pots such plants as *Ericas*, *Epacris*, *Diosmas*, and other hard wooded, delicate rooted Cape of Good Hope and New Holland plants. After shifting, place the plants in cold frame until they take with the new earth, which may consist of one part well rotted loamy sod, one part well decomposed woods earth, the third part pure white sharp sand, observing to drain the pots well when shifting.

If the *Pelargoniums*, *Heliotropes*, &c., &c., recommended to be shifted last month, have not yet been attended to, no time should be lost in having this work performed, as late shifting is

injurious, especially where a high temperature is not kept up in the plant houses during the winter.

*Chrysanthemums* will now require to be frequently watered with liquid manure, in order to maintain them in a vigorous growth to produce large full flowers; keep them in an airy exposed situation, and remove them under cover of glass on the approach of frosty weather.

*Camellias* should be removed into the house before frost injures the buds; sow all seeds of these as they ripen, and they will soon germinate.

All *Achumenases* and *Gloxinias* done blooming should be sparingly watered until the leaves decay, when they should be set away in a dry place under the stage in the cellar.

All tender *Annuals* sown last month should be potted off, or pricked out into seed pans.

Attend to sowing a succession of *Mignonette* and *Sweet Alyssum* seed for winter flowering, and keep such as is now growing in an exposed situation, where it can be covered with glass in very wet weather.

Towards the end of the month begin to put in cuttings of *Verbenas*, *Roses*, *Petunias*, and other soft-wooded plants; and take up all *Gladiolus*, *Amaryllis* and *Tiger* flower roots, as soon as the leaves and stems decay.

Plant *Neapolitan Violets* in beds and pots for winter flowering.

*Herbaceous Paeonias* and perennial plants of all kinds may be taken up, divided, and replanted this month; towards the end of which a bed should be prepared to receive the *Tulip* and *Hyacinth* bulbs next month.

Water and mulch your *Dahlias* if the weather is dry, and keep the tops well tied up to their stakes. Collect seeds of *Zinnias*, *Balsams*, and *Asters*.

### Acknowledgments.

We have received from Rev. Dr. Dalrymple, of the University of Maryland, a very curious looking plant or animal, we are not sure which, (it looks like the head of a baboon,) with a note, in which he says: "I send for your cabinet a 'tuckahoe' from the Rappahannock." We regret to say our ignorance of the natural productions of "Old Virginny" is such, that we don't know how to class the "tuckahoe." Will our friend inform us what we shall do with it?

Mr. Luitweiler, of the Central Nurseries of Evans & Luitweiler, York, Pa., sends us a magnificent specimen of a Seedling Rhubarb of his own, and requests us to give it a name. It is really worth a good name, and we must take time to consider on it.

Mr. Stephen Knowlton, of Harewood, has left with us specimens of a curious little melon about two inches in diameter. It has a peculiar fragrance, something between the cantaleupe and the apricot. Mr. K. received the seed from California and calls it the *pic* (picayune?) melon. We do not know that it has any value, except as a curiosity.

[For the American Farmer.]

**CRESTED TURKEY, (*Meleagris Crustata*).**—Body, black green; back, brown; rump and abdomen, chestnut colour; neck and breast, spotted with white; temples, naked and violet; throat and longitudinal membrane, red and hairy. About two feet seven inches in length. The feathers of the head and of the occiput are elongated into a tufted crest, capable of being erected at the will of the bird. The female differs in having a rufous reflexion on the plumage and a shorter crest. This species frequently utters a sound, expressed by *Jacco-yacco-yahooocoo*, which is feebly pronounced, and is supposed to imitate feelings of want or pain. It has likewise a still more feeble cry, which has been compared to that of a turkey. It is very gentle, easily tamed when domesticated; is apt to roost during the night on the tops of houses. It is in much request for the table. Its native abodes are Brazil, the forests which confine on the Bay of Campeachy, the Isthmus of Panama, and Guiana. A pair of these beautiful birds were exhibited by the writer at the Maryland Cattle Show, in 1855. J. J. BOWER.

### Delegates from Md. State Ag. Society.

DELEGATES appointed by President Merryman to represent the Maryland State Agricultural Society, at Exhibitions of United States Society, Chicago, September 12th; St. Louis Mechanical and Agricultural Association, September 26th; Pennsylvania State Society, Philadelphia, September 27th; New York State Society, Albany, October 4th; and Virginia State Society, Petersburg, November 1st:

*To United States Society*—Charles B. Calvert, Esq., Prince George's county; Col. Sam'l Hambleton, Talbot county; Col. John H. Southoron, St. Mary's county; John C. Brune, Esq., Baltimore city; Dr. Sam'l P. Smith, Allegany county; Cornelius Staley, Esq., Frederick county; Chas. A. Buchanan, Esq., Baltimore county; Edwin Scott, Esq., Baltimore county.

*To St. Louis Mechanical and Agricultural Association*—Col. Ramsey McHenry, Harford county; Col. Oden Bowie, Prince George's county; Gen'l Walter Mitchell, Charles county; N. B. Worthington, Esq., Anne Arundel county; Edward Lloyd, Jr., Esq., Talbot county; Thomas Love, Esq., Baltimore county; E. Law Rogers, Esq., Baltimore city; George R. Dennis, Esq., Frederick county; Edward Stabler, Esq., Montgomery county.

*To Pennsylvania State Society*—James T. Earle, Esq., Queen Anne's county; G. M. Eldridge, Esq., Cecil county; John Contee, Esq., Prince George's county; Valentine Adams, Esq., Frederick county; J. Carroll Walsh, Esq., Harford county; W. J. Gittings, Esq., Baltimore county; Col. J. S. Sellman, Anne Arundel county; Robert Dick, Esq., Montgomery county.

*To New York State Society*—J. Howard McHenry, Esq., Baltimore county; Major Edward Wilkins, Kent county; S. T. C. Brown, Esq., Carroll county; L. T. Brien, Esq., Washington county; Col. Charles Carroll, Howard county; J. M. Jacobs, Esq., Harford county; Alexander M. Morrison, Esq., Baltimore county; Dr. J. Hanson Thomas, Baltimore city.

*To Virginia State Society*—Col. W. D. Bowie,

Prince George's county; Samuel Sands, Esq., Baltimore city; James N. Goldsborough, Esq., Talbot county; William H. Jones, Esq., Somerset county; F. M. Hall, Esq., Prince George's county; O. Horsey, Esq., Frederick county; Col. William Tagart, Baltimore county; Col. W. M. Carey, Baltimore city.

Gentlemen accepting these appointments will please apply to Samuel Sands, Secretary, for their credentials, at Office of Maryland State Agricultural Society, No. 128 Baltimore street, Baltimore.

### Alderney Cows for Butter.

CATONSVILLE, July 22, 1859.

*Editors of the American Farmer:*

GENTLEMEN: In almost all our books on Cows, the Alderney or Jersey is always mentioned as being the richest milker known. I have never seen a statement showing how rich their milk really is. Supposing that there may be many others in my situation, and thinking that the below may not be entirely uninteresting to yourselves, I take the liberty of enclosing it, and remain,

Very respectfully yours,  
JOHN GLENN.

ALDERNEY COW "MILLY,"

*Nine years old, six months after calving,*

1859.		Milked:	
Feb. 5.....	9 lbs. 9 oz.—7 lbs. 4 oz.—16 lbs. 13 oz.		
" 6.....	9 " 11 "—8 " 4 "—17 " 15 "		
" 7.....	10 " 9 "—8 " 15 "—19 " 8 "		
" 8.....	10 " 4 "—7 " 10 "—17 " 14 "		
" 9.....	8 " 14 "—8 " 3 "—17 " 1 "		
" 10.....	15 " 15 "—7 " 3 "—18 " 2 "		
" 11.....	10 " 11 "—8 " 1 "—18 " 12 "		

The above one week's milk, weighing 126 lbs. 1 oz., yielded 27 lbs. 1 oz. cream, and made 9 lbs. 12 oz. butter. To make 1 lb. butter, it required 6 quarts and a little less than 1 pint of milk.

ALDERNEY COW "FANNY,"

*Eight years old, one month after calving,*

1859.		Milked:	
July 11.....	12 lbs. 14 oz.—14 lbs. 11 oz.—27 lbs. 9 oz.		
" 12.....	14 " 15 "—9 " 3 "—24 " 2 "		
" 13.....	14 " 3 "—15 " 6 "—29 " 9 "		
" 14.....	11 " 14 "—13 " 10 "—25 " 8 "		
" 15.....	11 " 2 "—15 " 3 "—26 " 5 "		
" 16.....	16 " 2 "—12 " 9 "—28 " 11 "		
" 17.....	12 " 0 "—14 " 0 "—26 " 0 "		

The above one week's milking weighed 187 lbs. 12 oz., and measured 90½ quarts; yielded 28 lbs. 1½ oz. cream, which measured 13½ quarts, and made 15 lbs. 15 oz. butter. To make 1 lb. butter required 5½ quarts milk, and each quart of cream yielded a fraction less than 1 lb. 3 oz. of butter.

"Fanny" was tried again on one day's milk, July 20th; the milk weighed 29 lbs., and yielded 2 lbs. 9 oz. butter, or at the rate of 17 lbs. 15 oz. per week.

These two cows are the richest milkers out of ten, tested at different times during one week each and at different periods from calving, varying from one to six months. The average of the whole ten was 10 lbs. 3¼ oz., and the average richness 7 4-5 quarts of milk to the pound of butter.

J. G.,  
Catonville, Baltimore Co.



### Cincinnati Horticultural Society.

*Bacon's Buildings, Saturday, Aug. 6.*

President Hazeltine in the chair; minutes of the last meeting read and confirmed.

Mr. R. Buchanan, of the committee appointed to visit the Dwarf Pear orchard of Mr. W. F. Irwin, reported that Mr. I. had a great many planted, and that a majority of them were thrifty, vigorous, and doing well. Some of the trees were bearing good crops, considering the season—chiefly the Belle Lucrative, Duchess d'Angouleme, White Doyenne, and Glout Moreceau. What he saw encouraged him in the cultivation of the Dwarfs. They had passed through several bad seasons, and, on the whole, looked well. They had been planted from three to five years.

Dr. Warder observed that it was not in his power to give so favorable an account of his impressions on the above as Mr. Buchanan had. His own experience in Dwarf Pear culture was rather confirmed by what he saw at Mr. Irwin's. He conceived that the trees were not altogether trained right, that they had, he thought, been somewhat neglected, and that the planting of peach trees among them had very much injured them. This should never have been done. The Glout Moreceau were slow of growth, but they would shortly probably give Mr. Irwin a bushel of pears each. He saw them seven feet long, this year's growth, at Mr. J. Loughry's, but the growth of them ought to be controlled. Mr. L.'s trees he considered better trained. In this connection, Dr. Warder would remark that we generally ruin our winter pears (the fruit) by not knowing how to take proper care of them in their preservation and ripening. He had condemned the Passe Colmar for many years. When once Pears begin to shrivel they are of no value. The best plan is to put them into your potato pile, or in your cool cellar; then, when the proper time arrives that they should be opened for use, bring them out, select from them according to appearance, and put them, to complete their maturity, into properly warmed rooms and drawers.

Mr. Sayres observed that, one fine pear season, he had bought, at one of our exhibitions on Vine street, three bushels of pears of different winter kinds, chiefly Glout Moreceau and Vicars, or Clions. He treated them much on Dr. Warder's plan, and put them in his cellar. He brought them up occasionally, and selected from them, and put those selected into a rather higher temperature at times, and in their season, during the winter, they had gradually ripened, and he and his family had a feast of them until after spring.

Mr. R. Buchanan picked, last year, six bushels of the Jaminette Pears. He placed them in barrels like apples, and put them in his wine cellar, and nicely covered them over. He had them good all the winter. We were not sufficiently acquainted yet with the management of winter pears. We want more facts in regard to this, and we shall be much benefited thereby.

Mr. Sayres, to return to the subject of Dwarf Pear culture, remarked that the judicious selection of the right kinds was all-important. We hardly require more than about six well-bred varieties. He had cultivated the Glout Moreceau for seven years. It was a good, strong grower and a fine bearer. He was not an advocate for much

early bearing with the Dwarf. This should be rather checked for the future good of the tree. Too much high cultivation and extra or ultra pruning would shorten life. The kinds he would name with confidence as doing well here were the Belle Lucrative, a kind which is a fine grower and very fruitful; Louise Bonne de Jersey, generally very favorably known; Duchess d'Angouleme, Glout Moreceau and the Bartlett, world-famed. The Glout Moreceau—which he would recommend to plant between others, and which could afford to be renewed, if others were desired, because it bears so young and takes up so little room—should be allowed two feet more space than others generally. There should be a succession of fruit, early to late.

At the request of the President, Mr. Buchanan stated that the grape crop was now quite promising. The crop was better than since 1853, but not quite so good as in that year. The wood was beginning to ripen, and there was now nothing to fear but hail-storms. He had found no difference on the trellis or in the vineyard—in long or in short pruning. He had cultivated some vines much, some not at all—no variation as to rot; but those which were properly pruned according to general plan, and cultivated, were the best with him. The more wood the more grapes; but how would they ripen most suitably for wine? He had as much rot on arbors as in the field.

Mr. Petticolas observed that grapes touching the wall he had found would not rot—attribution to the absorption of moisture and emission of heat from buildings, &c.

Mr. Haseltine said that he had noticed grapes on Dr. Smith's old place, trained and growing in every way—long and short-pruned—some covering trees, others trailing the ground—but those immediately against the house were the best.—Some on trellises adjoining the house had rotted badly.

Mr. Rentz said that he had a good crop, and endorsed what Mr. Buchanan had said.

Dr. Mosher confirmed all that Mr. Buchanan had experienced as relating to the grape on his own place, Latonia Springs. He would merely add that he had half an acre which had been left late, and not tied up, or trimmed properly as he thought, and the grapes there had rotted the worst.

Mr. Addis said that at Cheviot, of those tied to stakes in the old way, one-half had rotted. With his own long-pruned, and laterals not cut, but tied up, they were not so badly rotted. Mr. Whitmore's, on the trellises, were exempt from rot. He considered that probably one of the best methods for success would be to distribute vines on trellises, and long-pruned and trimmed on long poles, or somewhat in that way, and he believed 10 acres would produce as much as 25 would in the common vineyard fashion. But grapes, particularly in this way, must be well fed. Witness the Hampton Court vine in England, which produced two thousand clusters a year, and extended over very large space, and its great bearing and size attributable to its roots having run into a vault of great capabilities of affording to it nutrition.

Mr. Wells had trained grapes for twelve years on trellises as long as possible, and produced twice the amount of the vineyard method on the same

space—sixty-five clusters on forty feet. They always ripened well.

Mr. D. L. Dickinson observed that the trimming was generally too close. He knew a Connecticut vine yield fifteen to twenty-five bushels, covering two large porches and roof of a house. He thought the vineyard grape should be grown twenty feet apart and trained along coarse wire. They would produce greatly more and healthy fruit, free from rot.

Dr. Mosher impressed upon the members that long-pruning would not produce fruit of sufficiently fine quality for wine. The juice would probably be ten degrees lighter; one vine should not produce more than ten or twelve good clusters for wine. For sale for the table of course would be different; then, prune long for quantity, but instead of wine you would probably have something more like vinegar, and sugar is not admissible.

Mr. Wells differed from Dr. Mosher; he never drank better wine, and so said his friends, than from grapes trained long. In this case, however, he was for giving the vines "high living."

Dr. Warder stated that Mr. J. Werk, the distinguished wine-grower, had not found long pruning profitable for wine.

We desire to report to the Society the result of our observations among some of the orchards on the Ohio river, that are supplying our citizens with fine fruit.

Taking the Maysville steamer, we passed up the river. The hills above the city presented vineyards on every hand, interspersed with orchards. Occasionally the peach predominated, but did not appear to be a leading fruit. At Foster's Landing, a fine plantation of these trees, set in grass, was without fruit. Near this place, Mr. Foster has peach orchards, but the crop is light.

Leaving the boat at Augusta, we found several peach orchards on both sides of the river. Those of Joseph Clark, on the Ohio side, were very fine, situated upon the high hills, where he has one thousand trees ten years old, in good bearing, and of very fine color; this orchard has yielded five crops. The soil is rich loam on limestone, and at twenty feet the trees meet—they have been pruned high. His young orchard of six hundred trees, six years old, has a fair crop of beautiful, well colored fruit.

Captain Alex. Smith has an orchard of ten years standing, on the bottom, overflowed and without worms, well laden with fruit of fine color. He has some trees fifteen years old, perfectly healthy and well filled with fruit. His vineyard is also very promising and very little rot, and presenting a good show for an early vintage. Many orchards in this region have lost their fruit this season before ripening.

Returning to the boat, we passed up the river to the sandstone region above, on the poor hills of Adams county; the peach appears to thrive well. At Rockville, we found the pioneer of that region, John Loughry, who is turning his attention from the celebrated quarries of the "City Ledge" of beautiful sandstone that adorns our metropolitan architecture, to the summits of his high hills, where he cultivates the more genial pursuit of fruit growing, with great success.—His orchards are about five hundred and thirty feet above the river. The soil is chiefly a thin

sandy loam, of great depth, with a sandstone sub-soil and some clay. He plants peaches at one rod distance, apples at two rods, and pears at twenty-five feet, with dwarfs intermixed—say three dwarfs to one standard. He has also set dwarf apples in one orchard, alternating in the same proportion with the standards. He has also planted three thousand two hundred peaches this year with apples, but does not appear to approve of mixed orchards.

Mr. Loughry's old orchard is still healthy, but is passing away and has not much fruit; it is said to have produced an annual average of \$100 per acre, net, in the ten years since it was planted.

What he calls his young orchard, in its fourth year, and yielding its second crop, is bearing well in some of the varieties, and on some expositions, failing altogether on others. This orchard furnishes the best illustration of the advantages of low heading and proper pruning and shortening, we have ever seen. The trees could not be desired of a better form—the branches well distributed, and from the ground up, so that now the second crop is gathered easily without a ladder, or climbing into the trees.

Mr. L. having a thin soil uses a compost of ashes, lime, charcoal, some salt and iron filings, with loam; this is applied over the whole surface. He digs wide and deep holes, throws back the surface soil, lets it settle, then plants very carefully, and loses very few trees; the ground being highly cropped for two years with corn, the soil stirred with the plow and hoe afterward. He worms twice a year, and has used coal-tar this season in hopes of punishing the worms, before throwing back the earth. This article does not appear to injure the dwarf apples, to which he applied it to keep off the rabbits in winter.

The pears took remarkably well and promise future returns, but in them we did not see the same judicious pruning exhibited by the peaches and apples; some trees have died, but not a large percentage. The blight has made sad ravages upon his old pear orchard in the bottom.

While scaling the elevations in the mountainous regions about Rockville with "mine host," Loughry, we had an opportunity of seeing the extensive operations of Mr. Flagg. 60 acres of forest have given place within the year to plantations of fruit and nurseries of grape plants. Two vineyards of two years standing presented a good appearance; the experiment of vine-culture is yet to be made in this region, in which the bottoms are often sandy and very fertile; the base of the hills for 200 feet is black shale, and the summits are sand-stone, upon which is, rather a thin layer of soil, generally poor.

From Mr. Loughry's hospitable mansion and the bank of the river at Rockville, we were kindly taken by Dr. Frisselle to the beautiful Dish Bottom, where we were much delighted with the soil and growth upon the grounds of D. Kinion—his "River Bank Nursery," a charming light soil, upon which the nursery-trees grow admirably. Mr. K.'s peaches and apples, on the bottom soil, presented a very fine appearance, but the former were not so highly colored as in some other orchards. His young apple orchard is fruiting handsomely. All which is respectfully submitted.—  
*Price Current.*

The following is the first of fourteen letters just published by Baron Von Liebig, justly termed "the father of Modern Agricultural Chemistry," by the *Working Farmer*, from which we copy. It will well repay a careful perusal. No one who would understand the relations of science to agriculture can neglect to make himself familiar with whatever may come from the pen of a great leading mind like that of Liebig. This letter will give our readers a taste of the quality of his latest publication.

The present conflict between practical agriculture and scientific chemistry, carried on by one party with some animosity and passion, perhaps to the ultimate advantage of the question at issue, might justly claim the attention of enlightened statesmen; for it concerns the weightiest material interests and the fundamental prosperity of the state. The most urgent problem which the present day has to solve, is the discovery of the means of producing more bread and meat on a given surface, to supply the wants of a continually increasing population. The most important social questions are bound up in this problem, which science is expected to solve.

Science has in her own way made the necessary preparations for this solution, but her way does not please practical men. From them she has met with no support, but with opposition in almost everything she has done.

For the new building, which is to give room and shelter to all who will enter, science has levelled the ground; she has drained it, and driven piles into the swamp, to insure a firm foundation; she has indicated the best stone for use, and pointed out the fact that it is not found in all places, though the mortar may be had everywhere in abundance; she has, finally, given the plan of the house; but not one mason or carpenter, through whose assistance alone the house can be erected, has raised a hand to help her. Experience, they say, has been for centuries their guide, and must continue to be so for the future. In their eyes no views are admissible or possible, which contradict their views based on this experience. What has been regarded from time immemorial as true, must be true. The new plan is opposed to theirs, which is the best; neither the draining of the swampy ground, nor the driving of the piles, nor even the stones which are to be found everywhere, are of any consequence; only the mortar is wanting, on which everything depends.

Agriculture, like every technical pursuit, is based on experience, that is, on the perception by the senses of facts and phenomena; and it has been enabled by experimental art to reach a certain stage of development. Simple observation shows a certain connection between the condition of the soil and its fertility. Thus, a certain porosity and dark color bespeak frequently a heavy wheat crop. But as all soils do not possess porosity and blackness, experimental art seeks out the means of communicating these properties. It endeavors to produce, for a given object, a passing or a permanent connection between two facts; it seeks to win from the soil a high return by this or that *plant*, *manure*, or other means.

Every object attainable by experimental art must be pursued with certain ideas, but it is immaterial whether those ideas be right or wrong. For if we seek an object without knowing the proper way to do so, each path taken by us is, for the time being, the right one. If, then, thousands of persons with the same intention strike out thousands of different courses, it will generally happen that something useful is discovered, although not precisely the object sought. In this way trades have been developed. It is almost incredible what can be done, and has, in fact, been accomplished in this way.

The connection between two objects, such as the soil and manures, is known only through means of a third, viz: the amount of produce. For the practical man, "the matter-of-fact man," there exists no other connecting link.

The exercise of a trade presupposes no intellectual labour; a knowledge of facts, and of their visible and manifest connection with each other, being quite sufficient for the purpose. The baker knows nothing about flour, leaven, or the influence of fermentation and heat; the soap-boiler is ignorant of the nature of the alkaline lye, of fat, and of soap; but both know that by taking certain steps bread and soap is produced. *If the articles look well, they are said to have succeeded.* In like manner, a few years ago, the agriculturist knew nothing about the soil, the atmosphere, or the action of the plow or of manures; things with which he was daily occupied.

The efforts of every tradesman are, as a matter of course, directed to his profits; every improvement in his business has the increase of his income for its object. Hence the baker regards the highest effort of his art to be the production of a white and weighty bread from inferior and bad-colored flour; and the soap-boiler aims at manufacturing from bad fatty matters, a soap with good external aspect. The practical agriculturist, in the same way, endeavours to reap the richest harvest from the poorest soil with the least expenditure of labour and manure. In this petty aim is manifested the paltry principle of the small manufacturer.

The progress of every trade by mere empirical experience, and also that of agriculture, has a limit. Every experimental method comes to an end when the senses are no longer sufficient for the perception of facts; when no new circumstance is presented to the senses for perception; when, in short, everything has been tried, and the facts resulting from such trials have been adopted into the particular art of trade. Further progress can then only be looked for, if hidden facts are sought out, the senses are sharpened for their perception, and the means of investigation are improved. But such a course is not possible without reflection, without the mind also taking its share in the operation.

It is long since agriculture has reached this point of its progress. As, however, in following out their own practical mode, agriculturists had never troubled themselves about the way or the means of discovering hidden facts; it was evident that without the aid of chemistry,—the science which communicates this knowledge,—they could never attain their end. Chemistry most readily responded to the call. In the very outset the practical agriculturist was informed by the chem-

ist, that his conception of the words, *air, soil, manure*, was indefinite and ambiguous; that they had a fixed and definite meaning, and that it was only in this strictly defined form that they could be employed in processes of reasoning. Chemistry thus elevated mere practical notions to the rank of *scientific conceptions*.

The newly acquired conception of manure was accepted with enthusiasm by agriculturists, and they set themselves with zeal to work it. It was known that manure was the most important element in increasing a crop. It had been shown that the word "manure" was a collective term; that it consisted of parts, and that its activity depended on its constituents. The practical agriculturist now began to operate with the parts as he had done with the whole manure. But as a part can never replace a whole, so the results, by this mode of proceeding, did not answer his expectations. No progress was made. Enthusiasm began to cool, and reaction commenced.

"It is utterly absurd," says Mr. Pusey, (late President of the Agricultural Society of England) "to put any value on the doubtful precepts of chemistry. It has done nothing for agriculture, with the exception of giving a receipt for increasing the efficiency of bones by the action of sulphuric acid, and of proposing to employ flax-water instead of liquid manure. We must keep to practice, for it alone is worthy of confidence." Every practical man in England, Germany, and France, quite agreed in this opinion. Chemistry has done them no good; it had not increased their crops, nor augmented their incomes.

As if freed from a frightful night-mare, blind empirical practice again raised her head, and made new and extraordinary efforts to refute the conclusions drawn from scientific principles.—The continued efforts of ten years have, however, shown that practice has only been moving in a circle, like a horse in a mill. More horses have been yoked; but as the beam was not lengthened, the circle has remained the same, only somewhat more trodden than formerly.

A new movement now occurred in agriculture. Science pointed out that the very facts destined to refute her doctrines, exhibited the fullest proofs of their soundness. Agriculturists had themselves to blame for their want of success, by not taking the right path and by mistaking the nature and essence of science. It is not at all the province of science to seek out the means of increasing produce or augmenting incomes. She inquires not after what is profitable; this belongs to experimental art, with which she has been confounded. The business of science is to seek for causes, and like a light, to illuminate the surrounding darkness. Science confers *power*, not *money*; and power is the source of *riches* and of *poverty*,—of riches when it *produces*, and of poverty when it *destroys*; it is expended by *use*, and renewed by *supply*.

If agriculture is to arrive at results which are to be lasting, she must decide upon entering on that path which science has recognized to be the only trust-worthy one to lead to a knowledge of hidden objects and their relations. This could be done without renouncing one of the facts acquired by experience. There is no lack of these, but agriculturists are at fault in their mode of comprehending them. They must, in the first

place, deist from drawing hasty conclusions for special purposes from these facts, and only occupy themselves with investigating the proximate conditions of all the facts connected with the life and development of plants, the production of which is their object. From the favorable action of the constituent of a manure in one case, they must not at once infer its equally favorable action in another, in order to derive immediate profit from it, but they ought, in the first place, to inquire into the reason of its good effects in the special case.

Such investigations are in an agricultural point of view greatly facilitated by all the conditions of the incidents, or effects, or their proximate causes, being clearly perceptible by the senses, and palpably manifest if we know the proper way to proceed.

The favourable action of a manure A is always dependent on certain physical conditions of the soil, and on the presence of a second substance B, of a third C, of a fourth D, and so on. After investigating these different points, our conclusion must then be submitted to proof, which must show whether all the conditions have been considered together, and none overlooked. We must endeavour to produce the same effect in another soil, by the combination of all the conditions found. Should the result correspond with our expectations, and be equally favourable as in the first instance, we have made an extraordinary step in advance; for from this special case we can now in all similar cases predict the like or unlike effect of the manure A. The effects will be like, in every instance in which we know that we have present the same conditions united in the same manner; and unlike, when one of these is known to be wanting.

The presence and united action of all the conditions of the effect observed, is designated by the term, a *special law*; because it refers to a special case, to a certain plant for instance. If this law holds good for super-phosphate of lime and "turnips," it does not follow that it is equally true for "wheat." But a similar special law can be established for each manure, each plant; and from these again general laws can be deduced, which express the conditions of the growth and development of *all varieties of cereals, all species of turnip and tuberous plants, &c.* These connected general laws now receive the name of *theory*.

It must be evident, even to the most limited understanding, that there is nothing hypothetical in this proceeding. It differs from blind experimental art, only in being the result of thought and reflection. As the train of thoughts, on which the experiments are based, is carried out in a precise and fixed direction, this mode of proceeding has received the name of the *inductive method*.

The world has been metamorphosed by the introduction of this method, which was unknown to antiquity. It is to this method that the present day is indebted for its peculiar characters. The Greeks and Romans possessed metaphysics and the fine arts as we do; but the natural sciences, the offsprings of the inductive method, were unknown to them. To this method we owe the millions of willing and industrious slaves, whose labour costs no tears or groans. It has bestowed on Germany alone what is equivalent to from



700,000 to 800,000 horses, which, with untiring energy and with the speed of the wind, bring from the most distant lands their various products to satisfy the wants of man; and they need no hay, no corn to feed them. The fruitful land necessary to produce the food for this number of horses of flesh and blood, remains for the use of five to six millions of men, who can be maintained on its surface.

Conclusions deduced from this method of investigation, are evidently but the intellectual expressions for experiments and facts. The practical man who adopts this method of solving all useful questions, need entertain no dread of acquiring the reputation of a theorist, which he considers to be of a rather doubtful nature. He may rest assured that by no other means can he solve a single problem. He must first seek after the "why," and the "wherefore" will follow as a matter of course.

It would be unjust to conceal the fact that, for more than half a century, agriculturists have directed all their efforts to gain an insight into the processes of husbandry. They have endeavoured to connect all its phenomena together by some intelligible bond, and to ascertain the relation and dependence of its scattered facts.

[To be continued.]

### The Blackberry Trade of Kentucky.

When you and your readers sit down at your tables, take your newspaper in your hand, and eat freely of blackberries, in some one of the many shapes in which they come ready for the palate, do you ever wonder where so many come from, or do you ever think that men of your own city invest this year in their purchase at least thirty thousand dollars?

This (Trimble) county probably turns out more berries than any other place of its size in the world. Until this year the farmers have generally been accustomed to speak of the briars as "the farmer's pest," so little did they know of the ways of Providence, who, in giving them this unfailling crop, has put ready to hand, without the toil of cultivation, a crop which this year brings them in a larger income than would the same space of ground planted in wheat, at ninety cents per bushel. Walk from this town to Bedford, and, even beyond that, branch out to Palmyra, on the one side, or the Hall's Landing on the other, and so long as the freestone formation lasts there the briars are running with berries, bearing them down in all sorts of entanglements.

On the ten-mile line, between this and Bedford, there are ten buyers; in Bedford there are two; at Palmyra three, beyond Bedford two, and in the vicinity of Hall's Landing one. There are a few others who visit points on the river, but these do no great amount of business. These buyers are the agents of fruiterers in Cincinnati, who receive two dollars each per day for receiving the berries and shipping them. Generally these men are owners of briar patches of their own. They are authorized to pay at this time thirty cents per bucket for all berries taken in; but at the commencement of the season, when the ripe berries were more scarce upon the bushes, as high as sixty cents was paid, and two days later forty cents.

I will explain the operations at one stand,

which will show how the business is managed at all, then I will make up the figures to show the extent of the outlay.

The buyer, whose business I am going to explain owns several patches of berries; one he reserves for the picking of his own family, all of which, from the mother, who is well nigh on to fifty years of age, down to the youngest child, are out in that field. Besides these, he has in other patches, their own and their neighbors, fourteen pickers. These start out at break of day, and pick until about ten o'clock, when, the sun being very hot, the berry does not stand so well as when picked in during the cooler hours. Men, women, and children now shoulder their buckets, carry them to the receiver, who empties them into the stands, each drawer of which holds one bushel and one peck. The number of buckets are now set down to the picker's credit, at the rate of thirty cents per bucket, and occasionally, when a bucket of extra sized berries are brought in, an additional five cents is added to the cost.

Wagons now come along and bring the stands to the river at this point, where each day between one and five o'clock there can be seen from a hundred to one hundred and fifty stands and half stands, equal to about 800 bushels of berries, which are daily shipped.

In the evening some picking is again done, the berries being brought in the following morning. On Friday evening and Saturday no picking is done, for the reason that the packet does not run on Saturday to your city.

I was present on Friday at the paying of the pickers at no less than three stands, and I found upon inquiry that the pickers collectively at each earned about twenty-nine dollars per diem. This yields from \$1.20 to \$2.50 to each picker as the result of their day's exertions. One family received for the week's picking \$27 and over. Not bad wages for children to make.

Up towards Bedford the farmers have only this year got into the business, the consequence of which is that they are very liberal, and they allow their pickers to pluck the fruit and make no charge therefore, but down nearer this place, where every ripening berry is watched and plucked as soon as it is black, the pickers pay five cents per bucket to the owner of the patch, so that he has not only the profit made by the picking of his own family, but the additional clear profit of about fifteen cents per bushel on the berries, which, considering there has been no cost of cultivation, and that there is a surety of the crop, is not so bad. The season lasts from four to six weeks.

All the buying here or nearly all of it being for two or three firms in Cincinnati, I have been enabled to come pretty nigh the exact figures of the trade. There are in all 18 receivers at a cost of \$2 per day; 273 pickers, averaging to receive \$2.10 per day; 7 haulers, averaging to receive \$1.50 per day; freight on 150 stands of 6 drawers per day, at \$1; making a daily outlay in cash, payable weekly, of \$769 50, or for the season of its usual length equal to \$23,685, all of which is expended within the county except about \$4000. Add to the total amount the occasional expenditures for premium buckets, and we have a total expenditure of about \$25,000.—*Cor. Cin. Gazette.*

### The Virginia Military Institute.

The liberality of Col. P. St. Geo. Cocke—the former President of the Virginia State Agricultural Society—has thrown into the funds of this institution \$20,000—with which it is intended to endow a Professorship of Agriculture.

A great want in the education of young men—many of whom go from the college halls to take charge of farms—will thus be supplied. It is expected that Col. Cocke's noble lead will be followed by other generous spirits, who are alike interested in promoting the cultivation and advancement of Agricultural science.

We trust this fund may be largely added to, so that our State may have within her borders the *very best school*, in all our glorious Union, for the education of not only her own sons, but of those of her sister States. It is with the greatest pleasure we announce the appointment of Major Wm. Gilham to the new professorship of Agriculture. Major G. is so well known to the citizens of our own State for his scientific attainments, his laborious, constant industry, his zeal in the cause of agriculture, together with the possession of all those accomplishments, and traits of character which serve to constitute and adorn the scholar and gentleman, that his appointment will, we believe, greatly add to the prosperity and reputation of our already popular Military Institute.—*Southern Planter*.

In addition to the above, we learn that the Hon. Wm. C. Rives has had a sum of ten thousand dollars placed at his disposal for the benefit of the same Institution.

Col. Philip St. George Cocke is well known as one of the most public spirited sons of the Old Dominion, and devoted to the agricultural interests of his State. Let all honour be done to the man who sets such an example of munificence, and executes his liberal and wise designs himself. How much better than a *post mortem* gift.—*Ed. American Farmer*.

**FERTILIZING PROPERTIES FROM THE AIR.**—A quantity of ammonia and nitric acid, equal, perhaps, on an acre, to one hundred pounds of guano, is annually brought down to the soil by the rain, for the benefit of vegetation. Let not, however, the farmer deceive himself, and imagine that he may indulge in idle repose, while nature is thus keeping up the fertility of his lands. But he may profit by this newly discovered bounty of nature, if he will take full advantage of the atmospheric manure by means of drainage, which promotes the equal flow of water *through* instead of *over* his soil; by deep cultivation of the land, which brings every part of it in contact with the air. The atmosphere is to the farmer like the sea is to the fisherman—he who spreads his nets the widest will catch the most.

A modern satirist speaks of Jupiter's wife as the "rusty Juno." He puns unconsciously, as rust is the oxide of iron, and we have always heard the lady spoken of as "the ox-eyed wife of Jove."

### Box-Feeding Stock or Housing Without Tying.

The method of box-feeding as a modification of ordinary stall-feeding, fastening with stanchions and otherwise, originated, it seems, with John Harver, an enterprising practical farmer of Norfolk, England. Very little has yet appeared on the subject, in the general agricultural press, though some account of it may have been heretofore given in your pages, before the *Stock Journal* came under my notice.

The *Journal* is so much in accordance with my ideas of what a paper of the kind should be; so obviously desirous of promoting enterprises of real merit and general utility, as distinguished from mere party or local schemes, and its tone is so fair, that I have decided to write out some of my views on this and other kindred topics for its pages, as time and convenience may admit.

The method of box-feeding having several bearings of decided economical importance, may be described thus: Instead of being tied up, the animal is allowed a box or inclosure, in which it can turn around when it chooses; the boxes, as I understand it, being of any width from 3 to 6 feet, by about 8 or 9 feet in length, with feeding-rack and manger somewhat modified from the usual form. As there appears to be several modifications of this plan, I may here offer a few suggestions of my own. One of the objects of the plan is to save labor.

It has promoted that object in England as is alleged, and this saving of labor is even *more* important with us. By allowing the droppings to be deposited in all parts of the box in succession, as will naturally result from allowing the beast to select a fresh position to avoid moist dung each time it lies down, the labor of cleaning the stall daily is saved. This object of distributing the droppings all over the bottom or ground of the pen, is accomplished by the animal, and muck, mold, litter and sawdust can be put down in a thin layer at a time, so as to save all the liquid excretions, and make an excellent compost. The boxes are made deep enough vertically to admit of an accumulation of several feet in thickness, as it is found to keep dry enough in consequence of absorbents like muck, sawdust, chaff, &c., being put under and among it in such quantity as may be requisite for that purpose, and thus they need cleaning out only once in the winter, or, if made specially deep, not till spring. It is said the treading the manure bed constantly receives, prevents fermentation, and thus prevents the animal's health being injured by foul gases, as also the waste of ammonia, and thus is saved a great amount of labor, that with tying in stalls is indispensable in working over the manure and keeping the animals cleanly. Cleaning them often is a necessary, but very difficult, tedious and unpleasant operation. When box-fed they keep clean as a matter of choice, when allowed room enough, because they instinctively avoid moist dirt or droppings, if permitted the alternative of selecting a position for rest. Where stalls are fitted up with stanchions and floors, these are only removed and the earth dug out deep enough to admit of two to four feet manure accumulating, and so converting stalls into boxes. Some good farmers in Canada adopt this plan, with a vertical rack, from the bottom of

which the hay drops into a manger. One of the best and most successful horse managers I ever saw, adopted it twenty years ago. He was called idle and slovenly because he did not follow the beaten track, but always having good healthy horses, and getting a good price for them.

By some it may be thought that feed will be sometimes spoiled by droppings in the manger. If the boxes are well lighted in front of the animal where he eats, and dark and close at the opposite or entrance end, such occurrences will scarcely ever take place, for the animal seeks light with its eye as instinctively and naturally as it seeks food when hungry. Light is as much a natural and necessary condition of sound health, as either rest or exercise, and we may rely upon it, that when the order of nature is perverted, and the natural functions suspended, and the organs weakened and partially destroyed by keeping animals in total darkness, we not only inflict great suffering, but practice very bad economy, particularly with store animals, by permanently impairing their breeding functions and constitutional vigor, for we cannot pervert the order of nature without nullifying the condition of health in an equal degree. Another arrangement might be made beside darkening the back and lighting the front of the box or pen, thus: Put a pole across at such a distance from the manger that the cow or ox must step over it to get at the feed box, and stand with its fore-legs between the pole and manger when eating; which cross pole should be 10 to 15 inches high according to size of animals, &c. Standing between this pole and the feed box, would do no harm, nor would the pole be any serious inconvenience in any respect, because it would be readily removable and need only be had recourse to with particular animals that required it, in the event of their backing toward the manger when turned with their heads from the rack. Not one animal in a thousand would ever back over a pole so placed, but all would step over it to feed without any dalliance.

The manger or feeding-box would be, I think, better if independent, and detached, so that the compost bed might extend under it to the same uniform depth in all parts of the bed, two upright studs keeping it in its right position.

A few of the advantages of feeding loose in pens or boxes, as distinguished from stall-feeding and tying in any way, may be noticed:

It saves much labor and its necessary time of application, cost, &c.;

It secures a much larger bulk of very valuable composted manure;

It promotes greater cleanliness and a much better appearance of animals so managed or boxed, (as Blood Horses are housed in this way for the sake of muscular health);

It prevents disease by admitting of the antidote of some degree of natural exercise when the instinct dictates its necessity, and therefore must be most beneficial;

It promotes better general health by its greater cleanliness from voluntary choice, greater comfort by admitting of voluntary and necessary choice of position at all times, according to the instinctive dictates of animal feeling; and greater thrift as a natural consequence of more comfort alike in motion, and at rest. On the contrary, a system of compulsory restraint, so far from promo-

ting thrift and health, induces restlessness. For which reasons, among others, I conclude that feeding in loose boxes is more natural, more agreeable, and more economical, particularly as applicable to store stock, than the restraining, discomforting and necessary-locomotion-obstructing system of stanchion and stall. Compulsory restraint induces debility, distress and disease, but the voluntary motion promotes cleanliness, exercise, and its resulting energy does not obstruct the exercise of natural functions to a healthful extent, but secures that degree of vigor and thrift which can only come from at least a limited degree of voluntary action of the natural functions.—*American Stock Journal*.

### Midge or Weevil.

The following is an extract from a letter of John Johnston of Geneva, N. Y.

All we want is a wheat that will be in full head about the 5th of June. Then the chaff gets too hard by the time the midge is ready, so that they cannot sting through the chaff. I see some writers, who think their brains crammed with science, say that they deposit the larva on the outside the chaff, and that in four days it is alive, and creeps over the top of the chaff, and down to the young kernel of wheat; but I know better than that. I have watched them too often to believe any such nonsense. When the female gets full of the larvae, or maggots, she is quite red in the body. She then sticks to the chaff, puts out her sting, and penetrates through the outer and inner chaff, and instinct teaches her to apply her sting right opposite the young wheat. If she happens to be above it, she pulls out her sting, and tries lower. When she gets the place that answers her purpose, she sticks there for some time, and you can take hold of her with your finger and thumb, and pull out her stinger. When she gets on a head that the chaff is too hard, she will move up and down the ear, trying every one; sometimes she will succeed on the very lowest kernels, and some times on the highest. If she don't succeed on any of them, she tries another ear. They cannot stand a hot sun, and they seldom commence to sting the wheat until about two hours before sunset, and then they keep at their work of destruction until the dew falls. I have sat with glasses on amongst the wheat, for hours, watching them. I never saw the midge or fly more numerous than this season, but the chaff of my red wheat, and the Missouri wheat, was altogether too hard for them, and it is only the very latest heads of the white wheat they could sting, and the loss from them is only trifling. I hope the Missouri wheat may yield as well or better than the Mediterranean, as the latter is only fit for poor, worn land. If the land is in good condition, it gets all down: hence a great loss and expense in harvesting. The Missouri wheat has a stiff straw, as stiff as the Soule's, and will stand up even, with extra manuring. There is very little wheat sown in this county. The Mediterranean was very good last year, and better this, and I think more will be sown this year, take the whole county.—*Ohio Farmer*.

When you speak to a person, look in his face.

"AMERICAN GUANO" FROM JARVIS ISLAND.—This Guano has been referred, by the proprietors, to Dr. Campbell Morfit, New York, for a rigid chemical examination, preliminary to its introduction into the Baltimore market. We were promised his analytical results, from several cargoes, for the present number of the *Farmer*, but owing to certain evidences of an interesting peculiarity in the phosphate of lime constituent—as revealed in the progress of the analyses—that careful chemist prefers to delay his report until after a further and fuller investigation of this point. Enough, however, has been observed already to warrant the conclusion that the phosphoric acid and lime which the Jarvis Island Guano contains, are not present in the proportions of ordinary bone phosphate, but exist as a compound of much higher fertilizing power and commercial value.

[For the American Farmer.]

SILK FOWL, (*Gallus Lanatus*).—These beautiful fowls are natives of Asia, and in China they are very rare, and sold in cages to the Europeans. The silk fowls are shaped like the Shanghai—the whole body is covered with beautiful soft down of a snow-white plumage, the webs of which are so separated as to appear more like silk or spun glass than feathers. Skin purplish; flesh white and exquisite in flavour; comb small, of purplish red; hairy feathers extending even to the points of the toes; the eggs deep buff; habits like common fowls. When they have their young they are more like balls of silk than chickens. This splendid and magnificent bird is now in the collection of M. W. Baldwin, Esq., of Philadelphia, and at the great exhibition of the State Poultry Society of Pennsylvania, in 1856, received the highest encomiums.

J. J. BOWER.

### Baltimore Markets, Aug. 24.

There is little to note with reference to the markets. The Grain market exhibits further decline, though the demand is good. Tobacco of the better grades sell freely at full rates heretofore quoted. Peruvian Guano, with reference to which there has been some stir in the market, has not in reality advanced in price.

COTTON.—We quote Cotton at 12½ to 13½.

FEATHERS.—Feathers are 40 to 45 for good mixed lots. FISH.—Mackerel \$5.25 to \$5.50 for old, and \$5.25 to \$5.50 for new No. 3's; No. 2 \$14 for old, and \$15 to \$15.50 for new; No. 1, \$16 to \$16.50. Halifax Herrings \$2 to \$3, and new Northern Alewives at \$4.75 to \$4.87½.

FLOUR.—We quote Howard street Super, \$5.12½; do. Extra, \$5.50; City Mills Super, \$5; Extra, \$5.75; Family Flour, \$7.

Corn Meal.—Corn Meal \$4.12½.

Rye Flour.—Rye Flour \$4.25 to \$4.50.

GRAIN.—We quote Wheat at \$1.05 to \$1.15 for ordinary white, \$1.20 to \$1.30 for good to prime, \$1.33 to \$1.37 for choice; Red \$1.05 to \$1.14.

Rye.—Maryland 65 cents.

Corn.—Corn 77 to 80 for white, 78 to 80 cents for yellow. Oats.—New Maryland 33 to 35 cents.

GUANO.—We quote Peruvian at \$61 to \$62 per long ton, according to quantity—the latter being for a single ton and upwards. For less than a ton, at the rate of \$56 per ton of 2000 lbs.: California or Elide Guano, \$45 per short ton; Manipulated, \$47; Super-Phosphate, \$45; Mexican AA, \$20 to \$22; Mexican A, \$16; Sombrero, \$32 per long ton, and Colombian \$38 to \$40.

HAY AND STRAW.—New Hay is selling at \$13 to \$15 for baled, and \$10 to \$12 for loose.

MILK PAIL.—Milk Feed 11 to 13 for Brown Stuff, 25 to 30 cents per bush, for Middlings.

PROVISIONS.—Bacon.—We quote Shoulders in small lots at 7¼ to 7½, Sides at 9¼ to 9½.

Beef.—For ships stores, \$13 to \$15 for No. 1, and \$16 to \$18 for Mess.

Pork.—Pork, \$14.25 to \$14.75 for Mee, \$12.25 for prime, and \$11.50 per bbl. for Rump.

TOBACCO.—We quote ground leaf \$3 to \$5; inferior to good common \$3 to \$4.50; ordinary to fair middling \$3 to \$5.50; good to fine \$7 to \$12. Bay Tobacco—ripe \$2.50 to \$4; ground leaf \$5 to \$7; brown reds \$9 to \$9.50; yellow \$12 to \$16. Ohio—inferior to good common green and brown \$5 to \$6; medium to good brown and spangled \$7.50 to \$9; fine wraperry reds and fine yellow \$10 to \$16. Kentucky—common lugs \$4.50 to \$4.75; good do. \$5.25 to \$5.50; inferior leaf \$5.75 to \$6.25; good do. \$6.00 to \$7.50; fine \$7.50 to \$10; choice \$10 to \$12.

WOOL.—Wool 22 to 24 cents for unwashed; 31 to 33 for common tub washed; 35 to 37 for extra do.; 27 to 30 for No. 1 pulled; 33 to 36 for pulled Merino, and 30 to 45 for fleece Wool.

CATTLE MARKET.—Beef Cattle we quote at \$3 to \$4.50 per 100 lbs. gross, making an average of \$3.87. Hogs, \$8 to \$8.75 per 100 lbs. Sheep, \$2.50 to \$3.75 per head.

### NEW ADVERTISEMENTS.

Brackenridge, W. D.—Peach Trees.

Berry, N. E.—Seed Wheat.

Corse, William—Nurseries.

Cronwell, Richard—Agricultural Warehouse.

Evans, R. H.—Imported Stock.

Elwanger & Barry—Fruit and Ornamental Trees.

" " —New Hardy Grapes.

" " —Foreign Grapes.

Frost & Co., A.—Genesee Valley Nurseries.

Griscom, David J.—Evergreen Nursery.

"Gardener"—Situation Wanted.

Hooker & Co., E. H.—Stocks for Fruit Trees.

" " —New Grapes.

Harshbarger, A.—Grapes.

Isaac Jackson & Co.—Harmony Grove Nurseries.

Kettlewell, John—Manipulated Guano.

Lynch, William B.—Stallion.

Longett, A.—Fish, Guano and Fertilizers.

Maxwell, A. G.—India Rubber Goods, &c.

Moulson, S.—Old Rochester Nurseries.

Merryman, John—Maryland State Ag. Society.

Macdonald & Dugan—Super Phosphate of Lime, &c.

"Manager"—Situation Wanted.

"Office"—Farm in Virginia.

Poe & Howard—Builders' Materials.

P. Malcom & Co.—Guanos.

Robey, H. R.—Fruit Trees.

Reese & Co., John S.—Manipulated Guano.

Smith & Hanchett—Nurseries.

Summerson, R.—Valuable Farm.

Stran, William H. & Co.—New Cook Stove.

Sardy, John B.—Guano.

Wallace, G. B.—Potomac Farm.

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